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# DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1996

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## HEARINGS BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES ONE HUNDRED FOURTH CONGRESS FIRST SESSION

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### SUBCOMMITTEE ON THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

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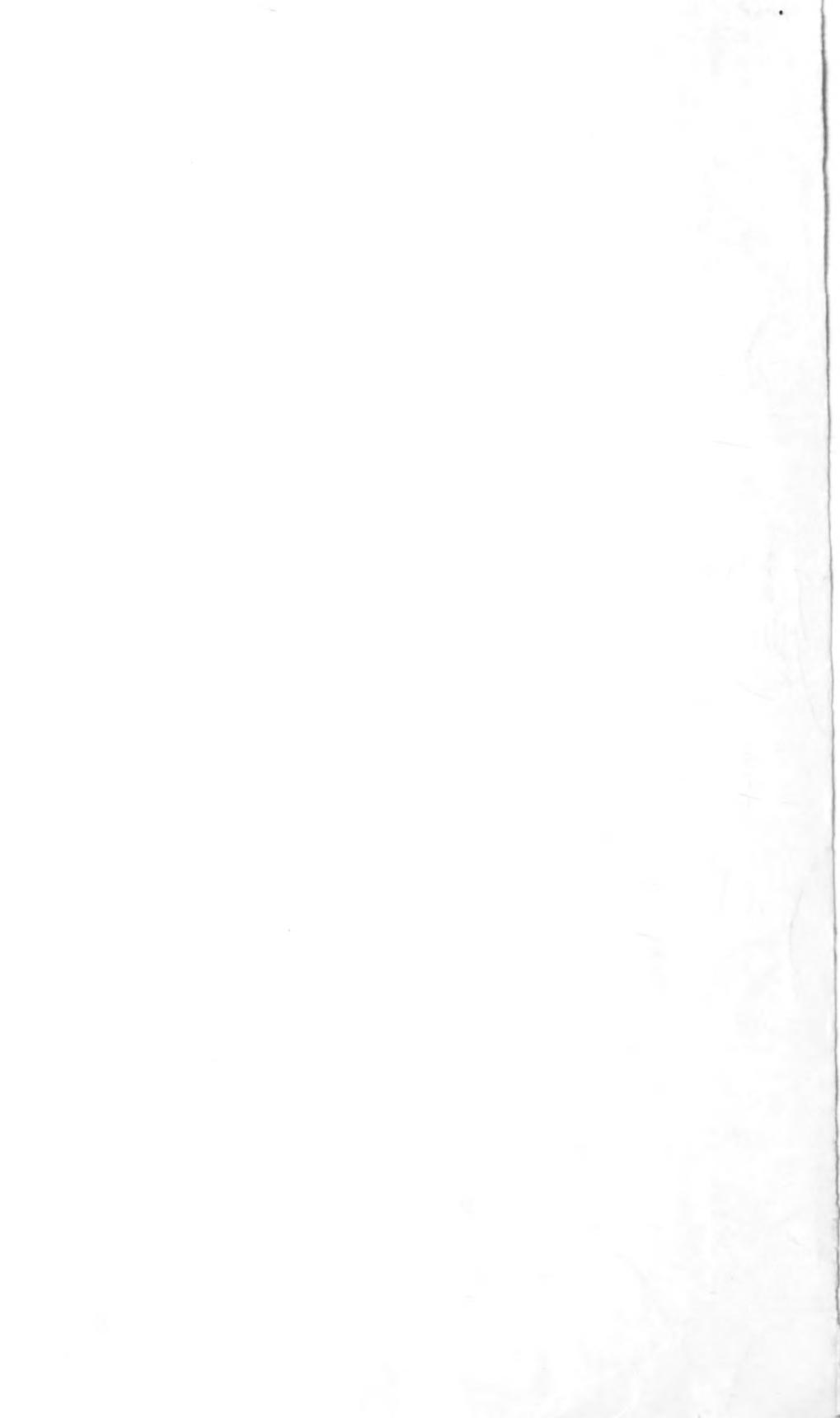
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*Staff Assistants*

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FRIDAY, MARCH 10, 1995.

SMITHSONIAN INSTITUTION

WITNESSES

I. MICHAEL HEYMAN, SECRETARY  
CONSTANCE B. NEWMAN, UNDER SECRETARY  
ROBERT S. HOFFMANN, PROVOST  
NANCY D. SUTTENFIELD, ASSISTANT SECRETARY FOR FINANCE AND  
ADMINISTRATION  
L. CAROLE WHARTON, DIRECTOR, OFFICE OF PLANNING, MANAGE-  
MENT AND BUDGET  
ROBERT P. DILLMAN, ACTING DIRECTOR, OFFICE OF FACILITIES  
SERVICES  
MICHAEL H. ROBINSON, DIRECTOR, NATIONAL ZOOLOGICAL PARK  
LEE DENNY, SENIOR INFORMATION OFFICER

OPENING STATEMENT

Mr. REGULA [presiding]. OK let's get started this morning.

We're happy to welcome the team from the Smithsonian today. Because of our time constraints, we're going to move right along. Whatever testimony you'd like to present will be made a part of the record in total, and you may summarize for the members of the subcommittee.

So, Dr. Heyman, you're on.

Mr. HEYMAN. Thank you.

I just want you all to know that Connie Newman is sitting to my right, the Under Secretary of the Smithsonian, and Bob Hoffmann to my left, who is the Provost, and Carole Wharton, who is our Budget Officer, and we have some other folks here who are resources to help me answer questions that you might have.

I wanted to say a few things at the outset, Mr. Chairman. I have a longer prepared statement, but I'm going to reduce that, given the time constraints.

I was going to emphasize that we are a unique institution, and in many ways our governance is much like a state university. We've got a board of regents. We're, obviously, created by the Federal Government as a trust instrumentality, but we're not a Federal agency. Our relations with Congress are really interesting because both through membership on our governance board—6 of our 17 members are congressional members—and through the appropriations process. There's a close relationship, but, nevertheless, there's a certain kind of independence similar to what I enjoyed when I was at the University of California.

And you know about the breadth of our charter. It really started right out at the beginning with Smithson who wanted us to devote ourselves to the increase and diffusion of knowledge, which essentially meant—and has meant—a very rich research agenda and a

very rich exhibition agenda: exhibitions, publications, and programs to diffuse, and basic research to increase. We've done over time some extraordinary research, and we continue to do that in far-flung areas from astronomy through tropical biology with many stops in between. Of course, we have a very large exhibition program in a lot of museums.

It's an enormous undertaking. We have over 28 million visitors a year, and that's quite a few. Obviously, this represents repeat visitors from the Washington metropolitan area, but we get people from all over the United States and from foreign countries. We've been trying to do some polling, really, in preparation for increasing our relationships with the private sector. I think it's fair to say that something like 60 percent of the daytime for nonbusiness visitors to Washington is spent in the Smithsonian. So it's a really huge attraction and a method of communication within the city.

The heart of both our enterprises, be it research or be it exhibition, is really in our collections, and I know we're going to speak about those some later because I know that the chairman has particular questions with regard to them. But I just want to emphasize at this point how important they are.

I also want to point out that we are rather unique in that about 28 percent of our operating expenditures are not appropriated funds, at least funds appropriated to us, and we have an endowment. I wish it would grow faster than it has, and we're putting a lot of attention to trying to increase that endowment, but we get something like \$18 or \$19 million a year income from that endowment. Then we have a lot of auxiliary activities, museum shops, catalog sales, licensing, and the like, *Smithsonian* magazine, and we're trying very hard to increase that take. It's not so easy because, as the folks in the private sector find, expenses go up at about the same amount that you can charge for your goods.

In any event, we're a big, vibrant place that's trying in a lot of ways to enlarge ourselves, and here's one of my regents now. [Laughter.]

#### FY 1995 RESCISSION

Mr. LIVINGSTON. Mr. Secretary, I apologize for being late.

Mr. HEYMAN. I want to speak a little bit about the recent rescission action you took, the \$25 million that came out of Fiscal Year 1995 appropriations, which, of course, represented a good portion of the construction budget. The reason that I want to talk about that is because the funds that you deleted relate to requests in our submission in the 1996 budget, the one that's before you, and I fear that if past action presages the future, you'll zero out two very major activities that I really feel constrained to speak to you about.

#### NATIONAL MUSEUM OF THE AMERICAN INDIAN

The first are the planned local facilities of the National Museum of the American Indian. I believe—and that's why I'm stressing it as hard as I am—that Congress, as well as the Smithsonian, is under a moral and legal obligation to proceed with the planned construction. The museum facilities that are up presently for discussion are largely a creature of congressional initiative. The main objective of its creation was the presentation and provision of pub-

lic access to an extraordinary collection of over a million American Indian artifacts that were collected in the late 19th and early 20th century by Gustav Heye. It's reputed to be the best collection in the world. It's being housed under really rotten conditions, and we have distributed some photographs to you that give you, I think, an accurate sense—I don't think we chose simply the bad places—an accurate sense of what it looks like there, and we're really very worried the collection's preservation and continuance under those circumstances.

That collection was under the jurisdiction of a foundation in New York called the Heye Foundation, and for various reasons the Foundation came on hard times. Thus, the Smithsonian was approached—this started in the seventies—to take over the collection. Multiple parties were involved: the attorney general of the State of New York, who resisted moving the collection elsewhere; the trustees of the Heye Foundation; representatives from American Indian communities; political leaders in Congress; and, of course, the Smithsonian.

Our board of regents was really reluctant to undertake the financial responsibilities entailed unless Congress passed appropriate legislation directing the Smithsonian to establish the museum and promising to support it. The result of the foregoing were agreements struck and statutes passed and judicial decrees rendered, mainly in 1989. We agreed with the Heye Foundation and the other stakeholders to accept the collection and house it in a museum on the Mall, a branch in New York, and a state-of-the-art collection and conservation facility to which the Heye collection could be moved and preserved and, thus, taken out of danger.

But our agreement was conditioned on the passage of relevant legislation, and that legislation was passed in 1899—

Mr. YATES. No, 1989. [Laughter.]

Mr. HEYMAN. I mean 1989. Yes, that is even a little before my time.

Mr. YATES. Not before mine. [Laughter.]

Mr. HEYMAN. It comprises some 20 pages of provisions in the United States Code Annotated. I brought that with me because I want to quote a couple of sections eventually. It, among other matters, directs the regents—and I really use that word because it's directive language—directs the regents to construct the three facilities in question with a net square footage of no less than 400,000 square feet. It creates a board of trustees under the regents, made up largely of American Indians, and provides that construction of the Mall museum will be financed no more than two-thirds by Federal appropriations. The idea was the Smithsonian would raise the balance of the cost of the Mall museum. In addition, there was a New York court decree confirming the arrangement and permitting the collection to be moved in view of the guarantees in the Federal statute.

Now a variety of events have occurred since 1989. First, the branch museum in New York was established in the refurbished Custom House in Lower Manhattan. It was financed by the Federal Government, by the State of New York, and the city of New York, in accordance with the requirements in the statute.

Second, the Smithsonian has organized a major fundraising campaign for the National Museum of the American Indian. Its primary focus is obviously on the third, or at least the third, that we have to raise. We've already raised in cash and pledges over \$26 million toward the goal of \$35.5 million to be applied to the Mall museum, one-third of its projected cost. It's enrolled over 72,000 members of the museum who, hopefully, continue with annual support. The total campaign goal is \$60 million with some \$25 million to go to an endowment, the income of which is to support outreach activities, activities really where Indian peoples live around the country.

The basis of this whole campaign has been the plan that's contained in the Federal statute: a Mall museum, a branch in New York, and a state-of-the-art collection and conservation facility adequate to house the Heye collection independent of other collections of the Smithsonian. In light of the foregoing, we view, obviously, the rescission action and the potential desertion of the two museum facilities with real alarm because, if this occurs, we've broken our collective promise to the American Indian community and we've undermined the confidence we have so carefully nurtured in the donor community to which we must turn increasingly for support as Federal funds become less available.

I just want to emphasize that a little bit. When I took over as—I wanted to say "chancellor"—as Secretary of the Smithsonian, I made an installation address last September, and I said, look, reality cautions us that we are not going to grow past where we are presently and what's in the offing at present by getting Federal funds. I said, whatever one thinks in terms of how persuasive we can be, in the present fiscal climate that isn't going to occur. And I said we're really going to have to do much more with the private sector, both with the corporate sector and we're doing a lot of things that—some that have been done and more that are growing—and with the philanthropic community.

I am really worried that if we go away from this set of undertakings, we're going to have an awful lot of difficulty in the philanthropic community, especially because there you've got to really carry through with what you say you're going to do. I had a lot of experience with this in building a fundraising capacity at Berkeley and I know it better than I might know other things, simply because I was so involved with it.

#### NATIONAL AIR AND SPACE MUSEUM EXTENSION

The other thing I wanted to mention—and I'm just going to spend a moment on it—was another portion of that construction budget which involved the Air and Space Museum extension at Dulles. As you know, we've run out of space to exhibit planes, for instance in relationship to the controversial Enola Gay exhibition. We never could have put that airplane in the Air and Space Museum. First of all, it's too large. Second of all, it's much too heavy and would have gone through the floor. So the best we can do—and as we shall be doing—is to display portions of it, a fuselage and some other portions in the course of an exhibition that is presently being designed with yours truly as the guest curator.

We need some large place. You'll recall all of the conversations about where that ought to be located. And, finally, you passed a statute that said it should be located at Dulles, and we had urged that, obviously.

The total cost of that is \$160 million. That's the estimate. There isn't a prayer that we could ever get that \$160 million out of Federal funds. The whole object is to relate to two other sources of funding for practically all of the money. One is the Commonwealth of Virginia to help us in various forms and the other is the private sector, mainly, aerospace and like industry that can do things in connection with that undertaking.

The Commonwealth of Virginia—actually, the governor signed a Memorandum of Understanding yesterday—provides for a noninterest loan that can come to the Smithsonian to help with aspects of the feasibility studies on methods of attracting private enterprise.

The second is a pledge to put existing infrastructure money into the necessities around Dulles, roads and other kinds of infrastructure investment. To my understanding, these monies are in accounts presently and the issue is how will they be spent, not if they can be generated.

And the third is the issuance of \$100 million in State bonds at municipal rates which would be for the financing for the enterprise. These would have to be paid off, obviously, by sources other than the State of Virginia, but being able to go to them for financing, and really fairly low interest financing, is a great advantage.

Well, the Federal investment in all of this, which I look at as a kind of leveraged venture capital, is \$8 million. If the project comes to pass—and I don't want to assure us all that this absolutely is certain in all regards, although I think the bet is pretty good—what we're asking for is an investment toward a very large return in terms of others being involved in this. You rescinded the \$4 million that was in the 1995 appropriation and we were asking for \$2 million this year and \$2 million next year. I'm asking you not necessarily to do anything with the rescission, but to provide us \$2 million this year, which we can use to attract other investment.

Mr. REGULA. Who pays—how's the \$100 million in bonds paid?

Mr. HEYMAN. Oh, we have to pay it back. It's got to come out of—it's got to come out of this investment. It's got to come out of the activities that will be carried out there by the private sector, essentially.

Mr. YATES. Will you yield for a question?

Mr. REGULA. Yes.

Mr. YATES. Is that a commitment of the United States of America as well? As far as I understand, it is.

Mrs. NEWMAN. Yes. It would be, but we are talking about IMAX theaters and trade fairs. There are some major activities that would be planned in order to repay, but it would be an obligation of the U.S.

Mr. TAYLOR. Mr. Chairman.

Mr. REGULA. I'll yield.

Mr. TAYLOR. Who set this up? Who approved it as far as the United States Government is concerned?

Mrs. NEWMAN. Well, first of all, we haven't requested the bond. It is—Virginia has noted to us the availability of a \$100 million bond, but we have not taken any funding yet. It was part of the agreement when we asked for authority to establish the facility at Dulles that there would be the \$100 million bond availability, \$3 million in an interest-free loan, an estimated \$40 million in infrastructure, \$6 million in state funding and another \$6 million in private funding.

Mr. REGULA. This is all in the planning stage as yet?

Mrs. NEWMAN. It's all authorized; it's planning.

Mr. HEYMAN. It's just in the planning stage, obviously, and the issue really on this is, is this promising enough to solve what are real problems for the Air and Space Museum to go forward in a creative way? We certainly have not had this kind of undertaking before, and if it works, which I think it might well, if it works, this is really a very interesting way to enhance a Federal facility.

Mr. REGULA. I'll yield to Mr. Yates.

#### CONDUCTING MULTIPLE FUNDRAISING CAMPAIGNS

Mr. YATES. I don't understand one thing. You're going to raise money for Dulles, and you're raising money for the Indian Museum. Aren't you in conflict?

Mr. HEYMAN. Well, let me say more broadly, Congressman Yates, we're going to be raising money for a lot of objectives, and we're going to be raising money in campaigns that surround the different museums. In this, we're going to be, if successful, planning very carefully about how not to make multiple calls on the same donors. There are donor communities out there for different purposes that we're going to tap. I hope that a lot of the money that will come for Air and Space is going to come from people who are deeply involved in air and space and who would not be interested at all in giving money or providing concessions with regard to other activities. It's a little like at a university; there's a group out there who will give you money for intercollegiate athletics and not for other matters, and you can carry on multiple campaigns at the same time.

Mr. YATES. I see. Okay. Thank you.

Mr. REGULA. Go ahead with your statement.

Mr. HEYMAN. That's it.

[The prepared testimony of Mr. Heyman follows:]

TESTIMONY OF I. MICHAEL HEYMAN, SECRETARY  
SMITHSONIAN INSTITUTION  
before the  
HOUSE APPROPRIATIONS SUBCOMMITTEE ON INTERIOR  
AND RELATED AGENCIES  
MARCH 10, 1995

Good morning Mr. Chairman and members of the committee. I am pleased to appear before the committee today for the first time since assuming my role as Secretary in September of last year. I entered the office of Secretary with great enthusiasm for this extraordinary institution and I can honestly say that my first five months have been more than challenging.

The Smithsonian is a unique and dynamic institution which belongs to the citizens of the United States. Each secretarial era reflects unique circumstances and poses its own opportunities and problems. When I was selected for the position of Secretary, I began to explore in detail the opportunities and problems facing the Institution and how I could best address these issues during my tenure. I identified four areas where I believe I should focus my energies in the coming years. To address these issues, I first implemented a reorganization which included the creation of a provost to oversee all programmatic areas. This will allow me to more actively and effectively manage the Institution as a whole and ensure a greater level of oversight and accountability over the diverse components which make up the Smithsonian.

The greatest challenge presently facing the Institution, along with the rest of the Federal establishment, is the constraint on resources. In the past, the Smithsonian could count on increased resources from Congress and the Executive Branch in discharging its mission. Those times are past and if the Institution is to continue as one of the world's premier cultural and scientific institutions, it must begin to rely more heavily on private support from individuals and corporations. A systematic effort to increase private support started very well under my predecessor and I intend to accelerate this initiative as quickly and effectively as possible.

This new era also demands from public, as well as private, organizations increased fiscal accountability. We must use our resources efficiently and intelligently both to husband them and to underscore our credibility to those who provide them -- the government and our donors. I believe that frugality also has a positive side. For example, it will require us to agree more specifically than in the past on the dimensions of our mission.

Second, we must take a hard look at the role of the Smithsonian as the nation's museum and at the goals of our exhibitions and public programming. As you are all too well

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aware, we have suffered through the long controversy surrounding the National Air and Space Museum's proposed exhibition which included a portion of the Enola Gay. There were mistakes made in the development of this exhibition which, in the end, made its presentation doomed to failure. This, and a small number of exhibitions over the past few years, have raised important questions concerning the Institution's responsibilities in presenting historical and analytical treatments to the public. Even before I made my decision to replace the original Enola Gay exhibition with a scaled-down display, I announced that we would undertake an assessment and review of the processes and criteria used in determining what subjects to cover and how they are to be addressed. I expect this review to be completed later this year and that it might well call for the establishment of guidelines to be used across the Institution regarding exhibitions and public programs. I will gladly report back to the committee with the results of this review and on those steps I plan to take in response to it.

Third, I am committed to developing, across the Institution, the ability to make our collections and information available to the public through technology. With the great advances in information technology during the past decade, we now have the opportunity to take our collections, via electronic media, to virtually every city and town in the nation, and ultimately, to almost every household. I have made this a priority of my tenure.

Within a few months the Smithsonian will go on-line on the Internet with a full and constantly updated information service with "home-pages" for our museums and research centers. This will become a *Smithsonian without walls*, bringing our vast resources home to Americans and offering a perennial field trip for students, young and old. This reach should increase considerably in the near future as the private sector merges means of communication and provides access to "ordinary" homes throughout the country.

I am told that one day soon emerging technologies will allow on-line visitors to look at 3-D images and, in essence, to "hold" an item in their hands, turning it through all its dimensions. We have already made plans to open a trial 3-D digitizing lab at the National Zoo to test the possibilities for the entire Smithsonian. I am excited by what this technology can mean to us in extending the reach of our historic mission -- the "increase and diffusion of knowledge." At the heart of the information revolution is something far more than an advance in technology; it is the fulfilling of one central promise of democracy: to make knowledge available to as many citizens as possible, and to allow that access to be shaped by their needs. I see it as James Smithson's mandate reborn for a new century and a new generation of Americans.

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On-line exhibitions can do things we cannot do through conventional means. Take, for example, the major exhibition "Ocean Planet," which will open at the Museum of Natural History in April before going off on a national tour. I am sure that no one who actually visits the exhibition will easily forget the experience. It is state of the art in the presentation of important questions regarding the health of the Earth's oceans. Noteworthy, however, is that this is the first exhibition that we are developing in parallel form on-line, in collaboration with scientists from NASA. That prototype will be available over the Internet. The on-line version will feature an interactive floor plan of the exhibit and will incorporate all of its elements. Its "resource room" will provide an interactive bulletin board and instantaneous connections to many sources of oceanographic information available on the Internet. It will feature a variety of special programs, including discussion sessions, demonstrations, curricula for elementary and high school courses, and meet-the-curators opportunities in real time.

New information technologies will also greatly enhance the benefits of our research programs. For instance, we are putting in digital form systematic collections of biological information in the National Museum of Natural History which can be shared among scientific researchers worldwide. Access to this information and these collections will not require a special trip to Washington in order to undertake or continue research activities.

Hence, greater access to our collections through advanced technologies will make a trip to the Smithsonian as easy as turning on a personal computer. The potential benefits of this electronic outreach to the American public are inestimable.

Finally, we must continue to take care of the most important asset of the Institution -- the national collections. Numbering more than 140 million objects, the collections are the foundation for all that the Institution does. From its myriad research programs to the hundreds of exhibitions and public programs we present to the public each year, the collections are what distinguishes the Smithsonian from other educational and cultural institutions. The primary target of increases in our request for this Fiscal Year is in the management and conservation of the collections. It would be impossible, however, for me to discuss these priorities without first commenting on the recent action taken by this committee with regard to FY 1995 rescissions.

The rescissions of FY 1995 Smithsonian funds recently approved by this committee cut right to the heart of our ability to care for the collections. The effect of these rescissions, and their impact on our FY 1996 request, is to allow the collections of the National Museum of the American Indian and the National Air and Space Museum to continue to deteriorate with the

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potential for permanent damage or loss. In both instances, the need for new storage and conservation space is clearly demonstrable. I would like to discuss each case in some detail.

With regard to the NMAI Suitland collections center, this component is critical to both the preservation of the collection and the success of the Mall museum. The Smithsonian, after many years of discussion and negotiation, and with the guidance and ultimate direction of Congress, agreed to accept the transfer of the Heye collection -- the single largest and most important collection of Native American artifacts in the world -- and to take the necessary steps to preserve it. Upon Congressional authorization the Smithsonian entered into a legally binding agreement with the Heye Foundation and the State and City of New York for the construction of three facilities which would comprise the NMAI. One of these facilities, the Suitland Collections Center, would replace the antiquated and wholly substandard Bronx storage facility at which the Heye collection is now housed. Specifically, the legislation authorizing the Suitland facility prohibits any of the Heye collection from being commingled with any existing Smithsonian collections. This is a key provision of the agreement. It is the Smithsonian's obligation to care for this collection. Without the construction of an acceptable facility, we fail to meet this obligation.

Another component of the NMAI legislation is the Mall Museum. As spelled out in the legislation, this facility is a public/private partnership. The Smithsonian is responsible for raising one-third of the costs of this museum from private sources. I am pleased to report that we have already raised \$26.7 million towards the \$36.7 million goal. The pledges -- ranging from the 71,000 members of the NMAI national campaign who contribute a minimum of \$20 a year to the \$10 million gift from the Mashantucket Pequot Tribal Nation of Connecticut -- have been secured with the expectation that the planning, design and construction of the Museum would proceed in accordance with the legislation. The rescission of FY 1995 planning and design money for this component will result in a delay or possible termination of the Mall Museum and will be viewed by donors and supporters as a broken commitment on the part of Congress and the Federal government. Sadly, one of the best examples of public/private partnership will be seen as a failure at precisely the time we need to demonstrate its potential as a future resource to the Institution.

Finally, the rescission of FY 1995 planning and design money for the NASM extension at Dulles will have two immediate results: placing the collections in jeopardy as they continue to be housed in substandard facilities at our Garber facility; and the likelihood that the significant commitment from the Commonwealth of Virginia which includes infrastructure improvements to the site (estimated at \$30-40 million), a \$3 million dollar interest

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free loan and the issuance of up to \$100 million in bonding authority, will lapse or be withdrawn. As we have stated on the record, with the exception of the initial planning and design money which totals \$8 million, the funding for the construction of this extension would derive from non-Federal sources. This would seem to be a wise investment on the part of the Federal government in which \$8 million of Federal funds could leverage more than \$100 million of non-Federal funds.

I felt the need to discuss these three projects in some detail as our request for FY 1996 includes funding for all three. It would be a great setback for the Institution if these projects did not move forward and a real impediment to our being able to properly care for the collections.

I am fully aware of the difficult situation which faces this committee specifically, and Congress as a whole. Reductions in the Federal budget now, and in the near future, are a reality. Making decisions about what programs and activities the Federal government should or should not support are difficult indeed.

On this, the eve of the Institution's 150th anniversary, I would like to remind the members of the committee that the Smithsonian Institution was created by Act of Congress and has evolved into a unique and revered institution which represents the best of America and its people. The Smithsonian is the mirror in which we, as Americans, see our history and culture from the past, in the present, and towards the future. I would venture that the vast majority of Americans believe the Federal funds which support the Institution are a worthy and rewarding expenditure of resources that provides direct benefits to all citizens.

I thank you and I would be pleased to answer any questions you may have regarding our FY 1996 request or any other topic.

## OPERATIONS OF THE SMITHSONIAN

Mr. REGULA. Oh, that's it? [Laughter.]

Oh, okay, I thought maybe you were just getting underway. You haven't really discussed the operations of the Smithsonian. Perhaps we can get that covered in questions.

First, I'm going to yield to the chairman of the full committee and the regent.

Mr. LIVINGSTON. Thank you, Mr. Chairman.

I think that your last comment about getting an explanation of the operations would be helpful, but I, first of all, am late and I apologize, Mr. Secretary, to all the folks you brought with you.

## GROWTH OF COLLECTIONS

But I guess the key problem before us is this Indian Museum. And it would appear to me that since you have \$250 million backlog in unfunded facility renewal projects; you're in the middle of a \$30 million building renovation at the Natural History Museum; the American Art/Portrait Gallery needs an overhaul of utilities, and many of the older buildings will need serious work done over the next few years; we've spent \$29.5 million on new storage for the Natural History Museum; planning and design of the new Air and Space extension at Dulles will cost \$8 million; \$5.1 million has been appropriated in recent years to add 95,000 square feet of space to the top of the Tropical Research Center in Panama, and \$645,000 is requested in the 1996 request for additional projects at the Panama facilities—the question is: where does it stop?

It seems that we have—the Smithsonian is capable of finding artifacts all around the world for every conceivable subject, all meritorious, all worthy of compilation and preservation, but at some point we run out of our capacity to provide facilities and storage. And it almost doesn't seem worthwhile to simply accumulate artifacts to store them if you're not going to show them. So, really, we're talking in terms of the need for construction, operations, maintenance of showplaces, which are vastly more important than just storage, although, obviously, you need storage as well.

Where does one—where, in your opinion, do we draw the line?

Mr. HEYMAN. Well, first of all, I think that we have to operate under an assumption which we haven't operated under very well in the past: that we've got to be much more careful and thinking about what it is that we're going to be acquiring, and we're really starting on trying to make much more fine-honed judgments with regard to that.

Second, we've got to, with more seriousness than we have in the past, begin to coordinate our activities with some regional museums in the United States, and I think that we've always thought that was a good idea, but we've never had enough pressure on us of the sort that you're mentioning to really take it as seriously as we should, although we have a number of objects on loan elsewhere, especially from the Air and Space Museum, and others, too. But, still, I think there's more of a capacity with regard to that.

The third thing is, though, that we have to distinguish between our various collections in terms of what is really important to collect in large number and where we can do without the kind of com-

plete collections that we have. I would mention that in the Natural History Museum we have a very large collection of flora and fauna, the largest in the world. It is a really extraordinary systematic biology collection, and it's extraordinary in terms of its importance to the research community worldwide, not just here, and not just in terms of our own scientists. It's really like the Library of Congress in the sense that it provides the kind of base for present and future research which would be, I think, criminal to let go, and you never know what the value of it all is.

One of the values that's come out lately is that it's a repository of DNA samples. Nobody even knew there was such a thing when most of this was collected, and now, because there are actual objects that have been preserved, it's possible to do evolutionary studies that are much more detailed than was ever otherwise possible, and we couldn't do if that material wasn't there.

In that case, I think we ought to merely sustain that and maintain that for the reasons that I'm stating. In some other areas, I don't think we have to be as fulsome as we have been in the past, and I think there is no doubt, given the new fiscal climate and the messages that we are getting, that we're going to have to find sensible ways to constrain ourselves with regard to new collection.

I think that the problem right now is we're getting caught at a very tough time in terms of this particular undertaking. I can't imagine coming to you next year or the year after and saying, well, I propose that we now go into—have a museum—somebody just suggested this—a museum of the automobile. It would be really kind of an interesting museum, but I couldn't imagine coming to the regents and then coming to the Congress suggesting enlargement into new topics. But this one, we're just caught at the most unfortunate moment, for the reasons that I've stated, where we have undertaken a set of obligations and, for the reasons I've stated, I think we ought to be able to carry through with them.

#### FISCAL CLIMATE

Mr. LIVINGSTON. Well, Mr. Secretary, just picking up on words, you say that we need to find sensible ways to restrain ourselves, but now is not the time. I'm reminded that President Clinton reminds everybody that this is one of the best economic years of modern times that we happen to be in. Unemployment is, in fact, at a low for many, many years, and, yet, he says this is not the time to balance the budget. He presents us a budget that is \$200 billion in imbalance and projects that every year from now until eternity we're going to have another \$200 to \$300 billion in imbalance. If now is not the time to balance the budget, yet, it's a good economic year—and in bad economic years you can't balance the budget because you need to pay more than you receive—why is it not the time to restrain ourselves in terms of your accumulation of artifacts within the Smithsonian?

I don't denigrate the objectives of the Smithsonian. I realize that there are lots of commitments out there, but the problem is we are now finding, many of us believe—and we are not alone; we seem to be supported by Alan Greenspan in his testimony just the other day when he said, if we balance the budget, we'll be a lot better

off and our children and our grandchildren will have much more secure futures. My opinion is we need to balance the budget.

So if we come to the conclusion here in Congress, as I think we have, that we must restrain ourselves, when is the time and where would you begin to set priorities? What priorities would you say that we can forego?

Mr. HEYMAN. Well, I'm willing—I'm happy to try to respond to that after I give that more thought in terms of our program. I mean, I do have a pretty good idea, if my budget got cut 10 percent or 15 percent, what that would entail in terms of trying to deal with my present reality. In large part—put aside the construction—in large part, what it would do would require that we have fewer people working at the Smithsonian because about 75 percent of my operating budget is in people, is in salaries. So I'd have to start to figure out how to downsize in those ways. I'd have to go from museum to museum and figure out ways to economize, and we'd have to figure out ways that we would get along with fewer people because that's where most of the money goes. And, as new realities make themselves apparent, clearly, we're going to be doing some of that. There's no doubt in my mind.

My problem is that, recognizing what you're stating and being sympathetic to it, I'm in a situation in which a very firm deal was made well before I was Secretary, and a bunch of chips were put on the table, and a bunch of chips were put on the table by other people in reliance on that deal. And walking away from that deal is (a) I think a real problem in itself, but (b) I think walking away from that deal is just going to undermine us in developing new sources of funding that we—you know, we did pretty well last year. We raised about \$45 million for a variety of topics. We're up to \$25 million in the first quarter of this year, and I do have some considerable optimism about this whole thing rising, but I've got to do it in a kind of ordered way. And if I walk away or if we walk away from our biggest obligation, the biggest basis of having raised a lot of money, I'm really very fearful that we're going to poison the well, a well that we're going to have to rely on more and more as it becomes more and more apparent that we oughtn't to and can't continue to rely on Federal appropriations.

Mr. LIVINGSTON. Thank you. I suspect my time has expired. Thank you, Mr. Chairman.

#### COLLECTIONS INVENTORY

Mr. REGULA. Speaking of the collections, you have 138 million items that are stored at some location. Do you have any inventory of those items, because, otherwise, it would be impossible to loan them out to museums unless they had some idea of what you have?

Mr. HEYMAN. I'm going to turn to my Provost, my all-knowing Provost. [Laughter.]

Dr. HOFFMANN. We do have inventories of virtually all of the items in the collection, and in many cases these are computerized inventories, so that we can quickly retrieve information on the nature of the object and other associated information and where it is stored.

We do a great deal of loaning of materials, both for exhibition and for study, research and scholarly study, to museums—and, for

that matter, university collections as well—not only all over this country, but throughout the world.

Mr. REGULA. How many objects or how many items are on display at any one time in the various facilities?

Dr. HOFFMANN. We do not have, to my knowledge, an inventory of the items that are purely display. We do know when we take an object from the research collections and utilize it, whether it be for a traveling exhibit or for a show in one of our museums, that that object is there. But it depends on the nature of the collection. Most of the art is on display. Quite a bit of the history objects are on display, and only a very small number of natural history objects are on display. Now that is because of the nature of these collections. The vast bulk of the collection is in natural history. Of the, roughly, 125 million objects in natural history, probably 120 million of those, or a little less, are botanical, zoological, analytic kinds of objects, many of them very small.

#### REDUCING COLLECTIONS STORAGE NEEDS

Mr. REGULA. Realistically, could you reduce the numbers because storage facilities are expensive? You've had a request which would total about \$40 million to build a new facility in Suitland, and that's just the beginning. You have to take care of it. Is there some way you can consolidate and eliminate, like cleaning out the attic, so to speak—

Dr. HOFFMANN. We do this regularly. On an ongoing basis, we evaluate, and particularly when we are moving materials, we evaluate whether it remains valuable to us and to the scholarly community or not. And if we decide that it is not, we de-accession it.

Another way in which we deal with this problem is to find partners in other parts of the country who may be particularly interested in working on a portion of our total collections. For example, the national collection of fleas—you'll excuse the term—or of ticks, those are both at other sites now because the active research is going on at those other sites. Another collection of particular kinds of beetles is at the Bishop Museum in Hawaii. There's yet another collection that is being stored in Mexico.

We are working very hard to develop these kinds of collaborations not only because this eases the pressure on our collection storage space, but it actually is good science, good research, because we are bringing together the resources of other institutions. So we are trying.

And one final thing I'll say: the rate at which we are taking new material into the Institution has declined rather drastically in the last 10 years.

#### ENOLA GAY EXHIBITION

Mr. REGULA. Well, I have a lot of questions, but I want to give other members a chance also. One final one, and that's the Enola Gay controversy. We've all read a lot about it. Tell us how you're going to handle that display.

Mr. HEYMAN. Well, I'm not absolutely sure yet, but I'll give you a general outline. I indicated, when I said we were going to scale it back and change it, that we would, largely speaking, let the ob-

jects speak for themselves, and I also said that I was going to take personal responsibility for it. Both of those things are true. Certainly, I have taken personal responsibility for it, although I'm working with people who know things about how to display items and the like. But, essentially, I'm going to have the fuselage; I'm going to have some more portions of, if we can swing this, some more portions of the plane available other than the fuselage itself.

We're trying very hard to develop some information on the B-29 and its history and how it got there, and the rapid fabrication of it from planning to the actual plane. And we're going to have a section in there on the Enola Gay crew, and we're presently working with the group that recently made tapes of the survivors of the 509th, and we're going to, if this all works out, be able to present those in a theater.

The signage on this is going to be fairly minimal. I'm going to do something with regard to saying a little about the controversy itself at the outset, and then I'm going to have fairly minimal labels regarding the Enola Gay itself and its mission. Then we'll probably have some portion of the exhibition that talks about what we have been doing in terms of renovation of the Enola Gay. That pretty much describes what I'm going to do.

Mr. REGULA. Has this new plan reached an accommodation with the veterans' groups?

Mr. HEYMAN. So far, it's only—you're the first person to have heard about this other than, of course, the people involved with the 509th because those folks want to make sure that there's an exhibition that they can live with if they're going to be evidenced and represented in the exhibition.

Mr. REGULA. Are they having input into your final design?

Mr. HEYMAN. Oh, yes, they certainly are. I mean, in terms of what those tapes will be that are available to us, Mr. Chairman, they're the ones who have to make the determination.

Mr. REGULA. I'll yield to the chairman for a comment or question.

Mr. LIVINGSTON. I want to say that the Secretary has walked in and inherited this problem, and it was a severe one, and I appreciate the sensitivity that he showed to bring it to, I think, a proper resolution. I think that it is satisfying most of the groups. There may be some lingering concerns on the extent of the display, but I don't think that the philosophical concerns have been unaddressed. I think that they have been, and I think for the most part, as near as I can tell, the matter should be resolved with your solution.

#### THE VIETNAM EXHIBITION

Just one other point, though: I noticed in the paper just a couple of days ago that Vietnam veterans are now unhappy because you have decided to postpone the Vietnam exhibit which they were pleased with. Could you tell us about that?

Mr. HEYMAN. Sure. I was a little amused at that. In the very early days of this great controversy that I walked into, I discovered, almost inadvertently, that the Air and Space Museum was considering an exhibit on Vietnam and the use of air power in Vietnam. I asked to see a description of it, and the description at this stage—there's no reason to believe this won't be a fine show when

it finally comes up—was very general. I said to myself, my goodness gracious, I wonder how this one will work itself out. And so I said, look, let's hold off on this for a couple of months or three, until we get this Enola Gay matter settled and we have some guidelines and the like.

The curator and the director came back to me and said they understood why I wanted to do that. Although there were veterans' groups they said they had consulted who were pleased with the plan, I remembered there were veterans' groups that were consulted early in the Enola Gay and they were pleased with it, too.

But they said, look, this curator really ought to go and do other work and not just be in suspension; why don't we come back to this after he has done other work? And I said fine. So the ironic part about all of this is obvious.

Mr. LIVINGSTON. Thank you.

#### NATIONAL MUSEUM OF THE AMERICAN INDIAN

Mr. REGULA. Mr. Yates.

Mr. YATES. Thank you, Mr. Chairman.

My good friend, Bob Livingston, talked about the necessity for balancing the budget and its impact on the Smithsonian's plans. I don't remember whether he was present when the Cato Institute and the Heritage Foundation appeared to testify. Among the suggestions they had for balancing the budget was closing down the Federal lands, closing the parks, closing the Federal forests, closing the historical stations. And I suspect that if one were to ask them, if they were to testify again today, if they believed the Smithsonian should be closed, they probably would say the Smithsonian should be closed as well.

If you want to balance the budget, you've got to go on to that kind of a regimen. My own feeling is the Smithsonian was created for a purpose. It has a mission. I think it's like the National Parks, one of the glories of the American Government that belongs to the people of the United States.

And as far as the Indian Museum is concerned, I came upon a speech made in the Senate, or in a committee of the Senate, by my colleague, Senator Inouye, and this is what he said about the Indian Museum:

I ask my colleagues, "What is your single overriding recollection of the history of our Government and Native Americans?" I know for me it is broken promises, discarded commitments, and unfulfilled obligations. We can trace the abuse of Native Americans by the Federal Government to the founding of the Republic. Our Government established policies and implemented programs that all but obliterated the culture of hundreds of Native tribes across the continent by appropriating their lands and homes, extinguishing their unique languages and customs, and making them ashamed of their Native heritage. What remains of the once vibrant and living tribal cultures that populated America from coast to coast? It's the historical and cultural artifacts that comprise the collections of the National Museum of the American Indian.

And he continues,

And who has the responsibility for these collections? The Smithsonian Institution, a trust instrumentality of the United States Government created by act of Congress. And who created the National Museum of the American Indian within the Smithsonian? The United States Congress.

He goes on with other things and he says,

That, my colleagues, is why I'm feeling this immense sense of *deja vu* because we, the Federal Government, are again about to renege on a commitment, one of particular importance to Native Americans and to do it in the name of what's best for our country.

Well, I don't think it would be for the best for our country. And, actually, as you pointed out, we do have a legal commitment, do we not, to go forward with the Indian Museum? If I understand correctly—has my time expired?

Mr. REGULA. No, no, no, no. I was going to have you yield when you get finished.

Mr. YATES. I yield.

Mr. REGULA. When you say, "a legal commitment," I think there's an authorization, but is there a binding contract? That's an important element right here.

Mr. YATES. Ask the Secretary.

Mr. HEYMAN. Well, the Smithsonian entered into an agreement premised upon congressional action in which, in return for getting the collection donated to the United States through the Smithsonian, the Smithsonian made a bunch of promises about what it would do in order to take it. It said in that that it was conditioned upon Congress taking an act. The Congress took the act. Now whether the United States could get sued in the court of claims I don't know, but it's a lot more than just an authorization, Mr. Regula. That's the point I've been trying to make.

Mr. TAYLOR. Mr. Chairman.

Mr. YATES. I have the time.

Mr. REGULA. Mr. Yates has the time.

Mr. YATES. Shall I continue?

Mr. REGULA. Sure. Go ahead.

Mr. YATES. I feel as does Senator Inouye about that commitment. I feel also that the American people want the Smithsonian to remain open. As you pointed out in your testimony, millions of Americans, as they come to Washington, go to the Smithsonian installations. It's like the capitol; it's one of the centers of attraction for the American people, as the National Parks are out West and as the historic buildings within the National Park Service are in the East and throughout the rest of the country.

The Heye collection is one of the great collections in the world, is it not?

Mr. HEYMAN. It is.

Mr. YATES. And, currently, it's disintegrating, is it not? Is there a chance the Smithsonian might be sued later on for not having properly taken care of the Heye collection?

I remember the tremendous difficulties that were encountered in trying to make the Heye collection available to the Smithsonian. The State of New York had to be importuned. You had to go to court and get changes of wills and things of that sort. And the representation was made by the then-Secretary to the court and to the others and to the Congress that the Smithsonian would take care of this collection. It is the last good or excellent collection of Indian artifacts from the remains of all the civilizations of the various Indian tribes. So I feel strongly about the Indian Museum as well, and I'm sorry. I protested at the time the subcommittee took the action of not building the storage facility at Suitland that it

was going to jeopardize the Heye collection, and I thought that shouldn't be done.

Thank you, Mr. Chairman. I think my time has expired.

#### RETURN OF COLLECTIONS TO NEW YORK

Mr. REGULA. Mr. Taylor, you're up next, but why don't we suspend and all vote and come back?

Mr. TAYLOR. Mr. Chairman, if I overheard one of the beepers correctly, this is the Schumer amendment, which is the last amendment made in order on the bill. I'm just wondering whether we're going to be going to final passage after this, and if so, whether you'd want to consider adjourning until—taking an early lunch, rather than the planned lunch.

Mr. REGULA. Why don't you start?

Mr. TAYLOR. I had several questions. One, you were talking about the commitment as far as contractual commitment. There is a case—unfortunately, there are many examples of cases. We have in my district a direct contract signed by the United States Government to build a road inside what is now the Great Smokey Mountain Park. It has been litigated. The courts have held it cannot force the Government to fund it, and it's very specific. It wasn't even projected on something coming, and the State put out money for bonds and that sort of thing. So I doubt there's an enforceable legal contract based on that and other contracts that are out there.

What would be the possibility of New York taking the artifacts back and going ahead with something on their own? They were reluctant to give them up. Is that an option? And building a new museum in New York—

Mr. HEYMAN. I really have no idea. I have no idea. I mean, all of this came at such a late moment that we have made no exploration of what might be alternatives.

#### ENOLA GAY EXHIBITION

Mr. TAYLOR. If we could talk a second, then, going back to the Enola Gay—and I know it wasn't something that you were—you came in the middle of it, but could you tell us, for the benefit of the committee, how that got out of hand, what caused the problem, what happened, and how you might see that it doesn't happen in the future?

Mr. HEYMAN. It's really very hard to know without having been there, but I really came to the following conclusions. I came to the conclusion that the original conception of the exhibition was really flawed. It was flawed in two ways. First of all, nobody, including the whole Advisory Committee that had a lot of historians and a lot of military people on it, thought about what I really finally concluded was the fatal flaw, which was that it's really inappropriate to have a very analytical show about an event like the end of the war with Japan at the same time you're commemorating and celebrating, basically, the 50th anniversary of that victory. They just don't go together. So that's one thing that nobody thought about. So that was a real problem.

Mr. TAYLOR. Do you, with your signage now and your statements, give a relevant justification for dropping the bomb, the United States—

Mr. HEYMAN. I, essentially, am just going to report the facts. I'm going to report the facts. I mean, I haven't done that label yet, but I'm just going to be very straightforward and indicate that something along the lines that this led, this clearly led to the conclusion of the war immediately, and most probably resulted in the savings—and I'll be—and I don't know how to quantify this yet—

Mr. TAYLOR. Sure.

Mr. HEYMAN [continuing]. Untold numbers of lives by avoiding the necessity of an invasion and avoiding the time that would have passed if other means had been used.

So, yes—

Mr. TAYLOR. And that will be expressed in the exhibit?

Mr. HEYMAN. That's my language, yes.

#### SETTING PRIORITIES

Mr. TAYLOR. Well, I think what you—

Mr. REGULA. We've got a couple of minutes. Go ahead.

Mr. TAYLOR. Okay. I was wondering about the overall budget. Have you any suggestions or will you be submitting any suggestions of priorities if there is necessity to cut in the general operations? Will you be prioritizing for us or—

Mr. HEYMAN. I'll do my best to do that. You know, the problem really is, as with any big, complex institution, that if you're going to really start to cut budget, you usually go through a heck of a process that's really quite participatory, so that all the people who are going in the end to find their programs reduced and the like have an opportunity to make their arguments and feel a part of that process. So it really is hard for me to sit down and do that. In some ways—I mean, this sounds ridiculous, and in ways I don't invite it, but if it were absolutely necessary to cut me, I think I'd prefer it if you'd just cut me, my operating budget, some proportion, and let me deal with the problem, which I could then deal with in process terms.

Mr. TAYLOR. And I share the difficulty. I'm in the Legislative Branch, and we're going to cut maybe \$200 million of ourselves and it's not an easy thing to do, but I was hoping maybe you might give us some guidance in prioritizing that would be helpful, but—

Mr. HEYMAN. Well, I started to think about this. I don't know of any single activity that I would just stop. So it seems to me that what we would do would be to go within each of our activities and try to prioritize within them, but I don't know how to do that without sitting down with the directors and with the unit heads and really working it through that way.

Mr. REGULA. We'll come back to you. We're going to recess until 1:00 because we have three votes coming up here, amendment, re-committal, and final, and there will be at least 45 minutes. So we'll reconvene at one o'clock and you'll be the first one up.

Mr. HEYMAN. So long as you don't think I'll come up with the priorities by 1:00. [Laughter.]

## AFTERNOON SESSION

## ILLUSTRATIVE REDUCTION

Mr. REGULA. If Mr. Taylor gets back and Mr. Skaggs, they're scheduled for questions.

Dr. Heyman, do you have any additional comments you want to make before we get into the questions?

Mr. HEYMAN. Only one, sir. My Budget Director said, in listening to my testimony this morning, she thought I had offered up a 10 percent cut. I want you to know I was speaking illustratively only.

Mr. REGULA. I concluded that. [Laughter.]

I did not interpret it even as an offer—speculation.

## REORGANIZATION AND RESTRUCTURING

You proposed a reorganization last year involving consolidation of programmatic activities, operations, and administration—or the Smithsonian rather; this may have predated your service. Could you explain to the committee how this restructuring will result in efficiencies and savings in both the operations and administration of the institution, as well as programs and research efforts?

Let me add that, without question, we're going to have less money to work with as a committee. Therefore, we're going to have to make some priority judgments. I was interested in your comment this morning that it perhaps would be easier if you'd take an across-the-board if that were necessary, and then you'd make the prioritizing judgments internally, and I have no problem with that because I do not envision that essentially we should micromanage any of the departments. That's not our role. But our role is that we have to move toward a sound fiscal policy.

Well, let me add one footnote. If you have an opportunity, read Alan Greenspan's testimony before the Budget Committee this week. He made a very compelling case for the balanced budget over a period of time because, as he said, this would result in a couple of benefits. I don't know if he spelled it out, but a substantial drop in interest rates, which, of course, means investment in private sector businesses which create jobs, and lower-cost housing, and, in turn, it allows people to improve the quality of their lives. He said if we were to do it right, that the next generation could have maybe even a better quality of life than this generation, which, of course, is a great worry to young people.

So I guess I mention these things because I think it would be interesting for you to read the testimony, and it perhaps illustrates why we are concerned about how we deal with all these things in terms of fiscal policy of the Nation, as well as a concern I have, and that is to get on this glide path to the balanced budget in 2002, the seven-year program, means that you have to look at what the outyear costs are of things that you put in place now. Therefore, I have tried to examine all of the functions in this subcommittee with an eye to what it's going to cost downstream to either complete a building or a project and/or to operate it.

So I guess just so you have some understanding of where we're coming from. Again, I emphasize that I don't want—and I don't think the committee wants to—micromanage your agency.

Mr. HEYMAN. Well, I'm going to ask both the Under Secretary and Provost to help address this question. But when I started out last September, I really concluded that we ought to consolidate at the Castle. So what I did on the program side is that I appointed Dr. Hoffmann, who was then Assistant Secretary for Science, as the Provost, and all of the museums and the research institutes on the program side now are going into the Provost office. And I did that for a lot of reasons.

First of all, I'm trying to have wither away multiple levels in the Castle where there are multiple decisionmakers who don't have to interact. For instance, prior to doing this, we had an Assistant Secretary for Arts and Humanities, an Assistant Secretary for Science, and an Assistant Secretary for Education and Public Service. Those three individuals are still there, but they're there in really a deputy role to the Provost. Actually, we don't have—the person who was the Assistant Secretary for Science, obviously, is the Provost, and the person who was his deputy now is the Assistant—the Acting Assistant Provost.

What I really want, I want to eliminate at least one layer here that was at the Assistant Secretary level and the Deputy Assistant Secretary level, and I want that to happen in the normal course of operations, but that's what I want to do. I want decisions to come out faster than they had previously, and I want to consider trade-offs. We sort of have no way at the program level to make tradeoffs between the science activities and the arts and humanities activities, and we now have a mechanism because we have a person who is responsible for both, and if the budget gets limited or there isn't enough money, we have a person who can look across that span with regard to making decisions.

The same thing is really happening on the Under Secretary side because the Under Secretary is principally in charge of all the administrative activities of the Institution, but much more, and plays a very principal role, obviously, in the budget. But, again, we're trying to consolidate jurisdictions under them to both reduce the number of people, but I think, more importantly in terms of efficiency, of getting decisions out faster, and have them less bureaucratized because there's less horizontal room.

But now I want each of them to talk a little bit about what specifically is occurring within their realms.

Mrs. NEWMAN. What I'd like to do is suggest some of the steps that have been taken that will give you an idea of what we're talking about in terms of restructuring. In the last year or two years, we've already closed a number of programs, such as American Studies. We've combined the Joseph Henry Papers grouping with the Archives, but we have then asked for a number of studies to look at not only how can we bring about greater efficiencies, but are we prepared to operate in this new environment? We have Peat-Marwick going in to look at the Smithsonian Press. We also have another group that will be looking at our businesses.

The Assistant Secretary for Finance and Administration has a number of initiatives. One is to have a review of centralization and decentralization because it may—it very well may be that there are activities going on in the central part of the institution that can

more efficiently and effectively go on within the museums and the research institutes.

Mr. REGULA. I have to smile because I don't know if you read the David Osborne articles in The Post a month or so ago. He said that what people voted for was a more efficient and a more effective Government. So you're going to give us that?

Mrs. NEWMAN. We are certainly going to work toward that and expect that we will be able to say to you that we are doing just that.

One other thing is that there is a review by Massachusetts Institute of Technology on protection services, helping us to determine what is the proper ratio of the security officers to the space, to the objects. In all of this, then, we not only are trying to determine how we have our resources support the mission of the Institution, but also if there is a way in which we can do it and reduce the number of people and dollars that have to be spent.

Dr. HOFFMANN. On the programmatic side, in addition to flattening the administrative structure, reducing the number of layers through which a decision has to pass, we are also integrating the administrative functions. Rather than there being three independent administrative groups—one for sciences, one for arts and humanities, one for education and public service—we'll have a single integrated group serving the entire programmatic area. I think this way we can perform more effectively, more efficiently, and at the same time not require as many people and as many resources in order to accomplish this.

Mr. HEYMAN. But you're also looking for redundancy in programs, aren't you?

Dr. HOFFMANN. Yes, we are also looking at redundancies in programs, and there it's far too early for us to start getting specific, but there are a number of ways in which presently independent operations can be collapsed, can be merged in ways that will allow us to create more efficient operations and reduce our overall costs.

Mr. REGULA. I think, if I hear you correctly, if you were to approach your mission on a zero-based budgeting policy that if we were to just give you a level of funding, whatever it might be, without attempting to line item, that you then, in turn, might collapse a program; you may even enhance one, depending on what your judgment would be as to their priorities. Is that a fair statement?

Mr. HEYMAN. Exactly.

#### MUSEUM OF THE AMERICAN INDIAN—SUITLAND FACILITY

Mr. REGULA. I'm going to yield to you, Mr. Skaggs.

Mr. SKAGGS. I didn't realize our numbers would be so depleted after the period of recess.

Mr. REGULA. Since there are no more votes and since apparently you aren't going to Colorado this weekend—

Mr. SKAGGS. We needn't comment on our weekend plans—at least not until later in the afternoon. [Laughter.]

I wanted to return to the Museum of the American Indian issue just for a couple of minutes. I thought the comments that Mr. Yates read that Senator Inouye had delivered added considerably to not just the rhetoric, but the reasons that he brought to bear here. What happens next, from your point of view, on all of this?

I mean, I listened to you lay out the steps that had been taken and the logical and moral, and I think legal, relationship that runs through them. Have you asked counsel to examine this? Where are we with regard to funds that have not been obligated, but are pending obligation as part of the Suitland facility?

Mr. HEYMAN. Well, I haven't asked counsel to look at it, Mr. Skaggs. As far as funds are concerned, those which were to be obligated, obviously, are gone. The ones that preceded it, we put in a—

Mr. SKAGGS. Well, there's no reason to assume that the other body will go along with with—

Mr. HEYMAN. No, I understand.

Mr. SKAGGS [continuing]. The wisdom, or lack thereof, of this body. [Laughter.]

Mr. HEYMAN. We have already spent monies that you appropriated, a little over \$6 million, and that's been for the design of the facility. So that facility's all designed and we paid \$5 million-plus for that, and we put in not quite a million, but around a million dollars, in site preparation cost. So if we don't go forward with it, we've lost it.

And, by the way, we've been doing some exploring about what would be alternatives to that facility, perhaps another pod in the Museum Support Center or a somewhat smaller building, and the differences between the total cost of the alternative and going forward as we are now are not very large. One of the major reasons that they're not large is because for any other solution there would have to now be a design, and those costs, as far as this building is concerned, have already been spent.

So if you look at how much money would have to be spent from this moment on, the differences are not great. I mean, they're \$3 or \$4 million, or something of that sort.

Mr. SKAGGS. Well, let me walk through this. We've got the collection. The United States is obligated to care for it or give it back, or is there anybody to give it back to?

Mr. HEYMAN. There really is nobody to give it back to.

Mr. SKAGGS. So we've got it, and we've got to care for it, and what is the less expensive alternative to going ahead with the building that you've already planned and designed?

Mr. HEYMAN. I really don't see a less expensive alternative to having a building at Suitland. It is possible to have a somewhat less expensive alternative by creating a new pod which is one of the extensions of the spine of the existing Museum Support Center building. But if we did that, it would only save about \$2.5 or \$3 million because we'd have to design it. The design costs already have been spent on the other facility. So I don't see very many alternatives other than what I've just stated.

Mr. SKAGGS. Given the trustee relationship or responsibility that the Institution has assumed as part of the transaction in obtaining the Heye collection, I mean, my memory—and I haven't examined this part of my law school curriculum for a while—is that there are legal obligations incurred with respect to conserving something accepted in trust.

Mr. HEYMAN. Clearly, we're obliged and have a fiduciary obligation. Whether we can be sued or not, I really honestly don't know.

Whether there's a sovereign immunity defense, whether there's an act of God kind of a defense, because we haven't been provided with the funds that we otherwise would, I don't know. But, nevertheless, I do know that we have an obligation.

Mr. SKAGGS. I know that Mr. Regula doesn't aspire to that characterization. Others around here I can't speak for. [Laughter.]

Mr. REGULA. The act of God was November the 8th. [Laughter.]

#### CURRENT STORAGE CONDITIONS

Mr. HEYMAN. This is an opportunity, if you wouldn't mind, for me to ask Bob Hoffmann to vividly portray where these artifacts are now and where they would be stored—

Mr. SKAGGS. Yes, I would appreciate that.

Mr. HEYMAN [continuing]. If we go forward with some kind of a reasonable plan for Suitland.

Dr. HOFFMANN. There were a series of photographs of the present storage conditions in the Heye Foundation facility up in the Bronx. This is just one of them. You can see that the pottery and ceramics are extremely crowded. They are on open shelving and vulnerable to dust. Any attempt to move one thing endangers something else because it's not possible to get things in and out very readily.

Here is a photo from the museum support facility, one of the so-called dry storage pods. These are similar ceramics, as well as some baskets, and you can see that we have modern shelving there that permits the drawers to slide in and out. The objects are stored with sufficient space, so that they can be handled and examined without endangering them. These are with the doors taken off the cases, so we could actually pull the drawers out and you can see—

Mr. SKAGGS. What would a professional curatorial staff member be likely to say upon seeing the first photograph in person, if you can delete the expletives?

Dr. HOFFMANN. They would be extremely concerned about the condition of the objects and the inevitability of continuing degradation of the collection over time. There's no way to store a collection in this way without its degrading in a very serious way.

Mr. SKAGGS. We are not meeting our fiduciary responsibilities there?

Dr. HOFFMANN. We are not meeting our responsibilities. I have a few other pictures of other sorts of pods, if anyone is interested in looking at those storage—

Mr. SKAGGS. It sounds like something from a science fiction movie. [Laughter.]

#### VOLUNTARY CONTRIBUTIONS

As I recall, I don't know whether it was last year or the year before, we had some testimony about the Smithsonian's trial run with voluntary contributions by visitors, and I don't know whether you've already touched on this when I've been absent. If you haven't, I'm interested in what the experience has been and what the prospects might be, and, also, whether you are legally constrained from charging admission.

Mrs. NEWMAN. I'm going to take the voluntary contribution part of this. As you remember, we did in March attempt a trial of voluntary contributions and, as a matter of fact, at the outset it was not that successful. In part, I think, we were too subtle. In fact, you had to look for the boxes. We did kind of tiptoe into doing this, it's true, and our protection security people had a great deal of concern about being held accountable for the money.

However, after working on it for about three or four months, we realized that we needed to be much more aggressive, and being much more aggressive meant redesigning the boxes and moving the boxes around. In the Air and Space Museum a mock space shuttle was put in at two different exits. They moved the boxes in both the Museum of American Art and at the National Zoo. When we did that, we went to a threefold increase in voluntary contributions to the point that we now have raised—and you're not going to be too, I think, happy with this number, but we have now raised about \$58,000 that way. But what we feel more, I think, happy about, and have greater confidence in, when we are more aggressive, when we are more creative is that and when we move the boxes, frankly, closer to the door, we have a greater chance that this is a source, but it's not going to be a source of major contributions in this context.

#### ADMISSION FEES

Mr. SKAGGS. And the question of whether you can decide to charge admission?

Mr. HEYMAN. I really haven't done a thorough study of that, but I know there are some museums in which we're constrained against charging because in the original gift to the museum there was a restriction on being able to charge admission. That is true of the Freer; I don't know if it's true of other of our museums at all, but I'd have to look at that. But there are some questions of that sort.

Mrs. NEWMAN. And the Hirshhorn, too.

Mr. HEYMAN. And the Hirshhorn, also.

The question of whether we ought to do that or not is one that I've obviously been giving some thought to. It's sort of like the thought that I had to give to questions of tuition at the University of California, as there were similar kinds of problems. And I said the other day at the Press Club, in answer to a question, that I really am reluctant about it. I'm reluctant about it in one instance because, for one reason, I really foresee that it would end up excluding some folks who otherwise would come. How many I don't know, and I think that if we really get into this seriously, we've got to do a lot of work to try to make real estimates and look at alternative ways that one can do that.

But the other thing that came to me—and, really, this is more of a political question than it is a technical question of any sort—I view the Smithsonian in terms of its place in Washington as one of the principal reasons for which people come here. What do they do when they're here? They spend an awful lot of their time at places like the Smithsonian, at the monuments, and the Capitol, at the White House, a whole array of things. I see those places kind of similarly, and somehow it just doesn't sound right, feel right, or

what you will, to charge fees for people to come and to participate in those places.

In a way, I really think it's more of a political decision than it is a kind of a decision that the regents find it really appropriate to make, but I don't know how that would come out. Obviously, if we got pressed in a terrible way, where the Institution is going to be seriously harmed, one would have to look at these as a potential source of alleviating that.

Mr. SKAGGS. Well, I think you've demonstrated a facility to make at least quasi-political decisions already. [Laughter.]

Mr. HEYMAN. Let's just depoliticize some, please. [Laughter.]

Mr. SKAGGS. It's a baby step from—I'm reminded of the experience that you have when you visit the Metropolitan Museum in New York, which is a terrific experience, but on entering there is almost a compulsory voluntary contribution, and I say that knowingly.

Mr. REGULA. If you would yield—how much?

Mr. HEYMAN. Six dollars, I think, Mr. Chairman.

Mr. SKAGGS. And I don't know how they're able to run that by the tax lawyers and have it count as voluntary and deductible and all that, but I guess theoretically it is. At a much lower level, something along those lines may be something that you have to resort to—

Mr. HEYMAN. Well, you know, in a way that's what we've started to do in putting out voluntary contribution boxes, and the movement from having them hidden behind walls to having them now much more prominent—

Mr. SKAGGS. They have sort of imperious docents at the Metropolitan. You can't get by without clearing your name somehow or another. [Laughter.]

Mrs. NEWMAN. And then you wear a sign.

Mr. REGULA. If you'd yield—I wonder if that isn't to meet a requirement underlying the museum that they can't "charge" fees.

Mr. SKAGGS. Right. I think that may well be it—

Mr. HEYMAN. Yes, it probably is.

Mr. SKAGGS. It's an elevation of form over substance that would do this place—tell me when I'm out of time, Mr. Chairman. I have a couple of other things—

Mr. REGULA. That's okay.

#### INSPECTOR GENERAL

Mr. SKAGGS. Does the Smithsonian have an IG?

Mr. HEYMAN. Oh, yes.

Mrs. NEWMAN. Oh, yes. [Laughter.]

Mr. SKAGGS. Okay. The record will show all witnesses answered in chorus. [Laughter.]

Mr. HEYMAN. A very effective one, I might say. [Laughter.]

Mr. SKAGGS. Have we visited with the IG, Mr. Chairman, in the past? I can't recall, and I—

Mr. REGULA. No, but it's not a bad idea.

Mr. SKAGGS. Well, that was quick.

## WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS

Yesterday we had your colleagues and tenants from the Woodrow Wilson Center in, and we discussed a little bit of their situation, in particular, the kind of domino effect on space that their presence there has versus your having to rent space elsewhere and their having to rent space elsewhere versus their hoped-for relocation, and also your, I guess, legal relationship in providing certain kinds of administrative support services.

I'm curious whether you see from your side of that relationship any opportunities for efficiencies, cost savings, that, since both of you fall under the jurisdiction of this subcommittee, we might, even though it bumps up in one side, the net will be lower.

Mr. HEYMAN. Well, I have the sense that a lot of those have been realized already because we provide general counsel service; we provide a variety of other kinds of administrative service now. So they've never had to duplicate. They're a relatively small organization in relation to the Smithsonian. As far as I know, they really haven't had to duplicate a number of things that we provide for them at a very low fee, I might say. So I think most of those, just in the normal trying to save money mode, have already been created.

## RENTAL SPACE

I certainly have looked forward to their moving to their new quarters because it would reduce our rental problem because we could start moving people who are in rental space into the main part of the Smithsonian.

Mr. SKAGGS. How much do you spend on that extramural rent?

Mrs. NEWMAN. About 5—

Mr. SKAGGS. Five?

Ms. WHARTON. For all our leases, for all our Federal leases.

Mr. SKAGGS. Five million?

Ms. WHARTON. Yes.

Mr. SKAGGS. And how much of that would you save if you were to be able to get the space back that's now used by the Center?

Mrs. NEWMAN. We'd have to submit that for the record.

Mr. SKAGGS. If you would—if you would, please.

[The information follows:]

## RENTAL SPACE SAVINGS

If the Woodrow Wilson International Center for Scholars (WWICS) space were used entirely to house Smithsonian staff currently in leased spaces, the Smithsonian could potentially save up to \$750,000 in annual rent costs. However, the major systems in the SI Castle buildings are in serious need of replacement. The work, planned in the Repair and Restoration of Buildings (R&R) account, will require the phased relocation of staff now in the Castle out of the construction zone. The project could take ten years to complete. The Institution plans to use the space now occupied by the WWICS as "swing space" to house temporarily the staff dislocated by the R&R project. At the end of the construction period, the Smithsonian will look at various options for permanently relocating staff from leased space, as well as consolidating staff now occupying space in the Mall museums.

## RESEARCH PROGRAMS

Mr. SKAGGS. Finally, I just wanted to continue a conversation on the record that we had the other day privately having to do with

the basic research programs that take place under your auspices, and, in particular, get your counsel as to how well integrated the priorities of those research activities are into a sort of national grid of important areas of research, and one that is peer-reviewed and vetted with NSF and comparable agencies.

Mr. HEYMAN. I asked the Provost to really think about those, and he's going to start out and I might have some observations.

Mr. SKAGGS. Great. Thank you.

Dr. HOFFMANN. I might first point out that we are active participants in several interagency committees that are concerned with environmental and biological research. On the other hand, we coordinate through NASA in terms of our work at the astrophysical observatory. We also participate in the interagency group concerned with educational initiatives. So we have representatives on each of those groups.

We overall are viewed by the agency scientists as working in a very complementary way. Much of what we do is simply not done in those agencies, and the work we do is of great use to them. For example, in the Interior Department, where we have the systematic biological expertise to identify organisms, they instead—

Mr. SKAGGS. Let me interrupt you.

Dr. HOFFMANN. Yes.

Mr. SKAGGS. I don't want you to say anything about participating in the National Biological Service because it will only get you in trouble.

Dr. HOFFMANN. Thank you. I was not intending to.

Mr. SKAGGS. Good.

Mr. HEYMAN. The National Biological what? [Laughter.]

Dr. HOFFMANN. We provide a great deal of support there. We do work collaboratively with the U.S. Geological Survey, with the Department of Agriculture, the Agricultural Research Center. We have a Memorandum of Agreement with the Forest Service for collaborative forest studies. So in a number of ways we work very closely with the agencies. We have National Marine Fisheries Service people actually within our building, as is true of some of the other kinds of scientists.

Now as far as how we fit into the grid of peer-reviewed research programs, we are excluded by law from applying to either of the two Endowments, Arts or Humanities, and, by decision of the National Science Foundation, we are not welcome to apply for most of their program funding for research. There are a few exceptions. We do—they do accept proposals in the education area and in a few highly specialized areas.

We would be delighted if we could have our scholars compete for those funds because we think that we have a very highly-qualified group of people, and, in fact, that is demonstrated by the fact that in those programs where our proposals are accepted—for example, NIH or in some of the other Government agencies—we are very successful in competing for funds.

We do, however, also support research through a series of competitive programs within the Smithsonian that are supported by our trust funds, and most of these, the bulk of the funds, are subject to external peer review, and the results of those peer reviews we feel are as rigorous as those in NSF and other agencies.

Mr. SKAGGS. Let me put it a little bit differently. If we were—as you know, other subcommittees of Appropriations have jurisdiction over most of the basic research programs in the Government, but if we had someone hypothetically before us from NSF and said, "Hey, what do you think about the kind of work in astronomy or biology or climatology, or whatever, that's going on at the Smithsonian? Is it off on a tangent that doesn't make sense with where most of science is going in those disciplines or is it—does it fit," what would you suppose this all-knowing NSFer would tell us?

Dr. HOFFMANN. I think, and I certainly would hope, that they would say, yes, our research is just as good as research anywhere in the country. I would also hope they would recognize that because we do have the ability to apply our trust funds, we can be—we can take risks in areas that sometimes it is difficult for the agency-funded research to venture into. The other important advantage we have is that we are capable of undertaking long-term research and monitoring that simply does not fit within the publish-or-perish cycle of a university researcher being funded by NSF.

#### RESEARCH BUDGET

Mr. SKAGGS. What of the \$407 million that we're being asked for this coming Fiscal Year, how much of that will go to support your research activities?

Dr. HOFFMANN. The \$407 million in the 1996 budget? There is a major item there, \$650 million, to support the continued development of the submillimeter array telescope.

Mr. HEYMAN. Six hundred and fifty thousand.

Dr. HOFFMANN. I'm sorry, \$650,000. I slipped a decimal point.  
[Laughter.]

And this is a project that got started in 1989. It has been proceeding on schedule and within our budget estimates, given that there's been some inflation over that period of time, and also given that we decided, on the basis of strong advice from our peer community, to locate it in Hawaii rather than in Arizona, but that's a very important initiative.

Mr. HEYMAN. I would think that in terms of our operating budget, about a third goes into research. It's hard to say exactly. Actually, when we get a new financial system, which we're working on presently, which is going to let us extract at the sublevels what it is we're spending our money on, we can say it with more exactness, but I think about a third because, if you look at the research that's going on, for instance, within the Museum of Natural History, a portion of that, the funding of the Museum of Natural History is exhibitions, obviously, but a good portion of it is in research. Then in other museums it's much more—it's flipped. But I'd say roughly a third.

Mr. SKAGGS. And about a third, then, of the Federal contribution would—

Mr. HEYMAN. Yes.

Mr. SKAGGS [continuing]. Be accurate as well? Great.

## EVALUATION OF SMITHSONIAN RESEARCH

Has NAS or any other outside group taken a look at this question of the relationship of your research with other Government-funded research activities in similar disciplines?

Dr. HOFFMANN. In the nearly nine years I've been here there has not been any kind of National Academy review. On the other hand, we regularly undertake reviews of our programs, and for this we invariably select external review panels that come in from the outside and look at what we do, and make recommendations as to how we can strengthen our programs.

Mr. SKAGGS. Any merit or good to come out of some kind of a comprehensive look at this, or do you think the incremental approach that you've taken over the years is sufficient?

Dr. HOFFMANN. I think we ought to expand the pace of that kind of review, and what we have not done in the past, but the Secretary and I have been discussing this, is to, in a systematic way, work through each of our major units and review them as a whole. Now, we have done that within the last five years. We have reviewed the Environmental Research Center. We've reviewed the Conservation Research Center. We have not, however, reviewed the Museum of American History as a whole. In the Museum of Natural History, we have reviewed the research portion, but not the museum as a whole. So we have focused on more manageable chunks. However, we're not getting the full picture, and we do feel the need to develop a review system that will look at all of the activities, both the scholarly research and the exhibition and education, for each of the major units.

Mr. SKAGGS. Well, if it makes sense from your point of view—and I don't want to do anything that's more of a problem than a help or is punitive in any way, but maybe we could work on some report language that would satisfy our curiosity as well as yours on an appropriate way to work through that over the next couple of years.

Mr. REGULA. Would you yield?

Mr. SKAGGS. Certainly.

Mr. REGULA. Are you, as part of this, evaluating how this is used? How does it serve society, I guess is what I'm trying to say? A hundred million dollars is a lot of money annually. How do we translate that into value received for the public that pays the bill?

Mr. SKAGGS. That's why I try to look at this or see how it is being looked at in the same way that NSF- or NIH-sponsored research is looked at, which isn't always in a way that is able to demonstrate an immediate practical benefit, but we—I think the Federal Government's necessarily the source of last resort for funding basic research. I don't quarrel with the legitimacy of that, but I think we should have a good sense that it's being done in an integrated and governmentwide, a coherent fashion. That's what I'm looking for.

Mr. HEYMAN. What the purpose was, speaking about it, I could elaborate on it just briefly. Certainly, my experience at the university has been that the major portions of the university and the deans and others who were responsible for running them go through periodic reviews, and a review committee comes in, usually

of peers from other places, an external review committee and says, "How is this place doing? What kind of research is it undertaking? Is that state-of-the-art? Is it relevant? Who benefits?" And it asks about the teaching program in the university context, which is really like the exhibition program and education program in our context. How well is that being carried out? What's happening? And it brings peer judgment to it.

That hasn't been our experience. As the Provost says, we've reviewed particular portions of some of our enterprise, but we haven't looked at the whole. Now, interestingly enough, we're doing this, or about to do this, for a whole variety of reasons at the Air and Space Museum, but that got me to thinking that that's really something we ought to be doing on a systematic, regular basis for the whole of the institution.

The Provost and I and the Under Secretary are really starting to think about how to do that, and we've got to bring our directors aboard, which I'm sure we can. But I'd like to make that a program that gets instituted on a regular basis in our institution.

Mr. SKAGGS. Well, if your schedule can either accommodate or be accelerated to accommodate something that we might try to integrate into our—the report accompanying our bill, again, without surely being disruptive, I'd be interested, and I hope the chairman would—

Mr. REGULA. Definitely.

Mr. SKAGGS [continuing]. And try to work on that.

Mr. HEYMAN. We'd be happy to work with you on that.

Mr. SKAGGS. Thank you.

#### DUPLICATION OF RESEARCH

Mr. REGULA. I think Mr. Skaggs has focused on something that we need to explore and I think you should explore as to the validity of all that's being done. It's an expensive undertaking and, hopefully, it's being productive for the people of the Nation.

Do you try to avoid duplication? We have, as has been pointed out by Mr. Skaggs, a number of different agencies of Government involved in various types of research. Is there some mechanism to ascertain whether or not you are duplicating?

Mr. HEYMAN. Well, I don't know. I think maybe Dr. Hoffmann had better take a shot at that.

Dr. HOFFMANN. As I indicated, we work closely with the scientists in the various Government agencies, and we have a pretty good idea of the work that they are doing. They know what we are doing. For the most part, the kinds of work we do are complementary.

In those cases where similar work may be going on, it is often going on at two different places, and it is important, as a scientist would say, to replicate this work, so that you have greater assurances that the results that you are getting are actually representative. And to the degree that they differ, that may relate to the nature of the environment in these different places. Now—

Mr. REGULA. Go ahead.

Dr. HOFFMANN. I was also going to say that when we undertake basic research, we do so because we are interested in understanding how the world works, how the universe is put together, broad

questions like this, and within that we're asking quite specific questions. We cannot predict in advance what will be of practical use to humans, but, in fact, we often find that there are unexpected benefits from this sort of research. I can give you some examples, if you'd want to go into it, but the shorter answer is that, yes, what our research accomplishes is of value.

Mr. REGULA. If you would, put a few examples in the record. I think it would be nice to have that.

Dr. HOFFMANN. Okay. In the record; right?

Mr. REGULA. Yes.

Dr. HOFFMANN. Okay.

[The information follows:]

## UNEXPECTED BENEFITS FROM BASIC RESEARCH

As stated in the record, we cannot predict in advance what will be of practical use to humans, but, in fact, we often find unexpected benefits resulting from basic research. In addition, basic research lays the essential groundwork for later applied research that can be specifically directed towards advances in agricultural technology, pharmaceutical breakthroughs and medical advances. The few examples cited below illustrate these connections between basic research and practical benefits for society.

- Pest control is an essential component of our agricultural technology and success; to grow rice effectively, one must learn to control weevils. Weevils that live in rice fields were for a long time considered to be one species. Careful research on large collections of weevils showed that they were, in fact, two species, only one of which was a serious pest of rice crops. When this was clarified, it was possible to focus effective control measures on this pest species. This advance was only possible because of earlier systematic research illuminating the various species of weevils.
- Taxol is a new life-saving drug, originally extracted from the Western Yew tree, which lives in old-growth forest of the Pacific Northwest. Taxol has proved to be effective against certain cancers in humans such as ovarian and breast cancer. However, the Western Yew is a relatively rare tree in those forests, and the amount of tree tissue required to extract useable amount of taxol is very large. In fact, it takes three trees to provide enough taxol for one cancer patient. The understanding of the evolutionary relationships of the Pacific Yew and its close relatives achieved through basic research led scientists to investigate the European Yew, Taxus baccata. This abundant European species of Yew has enough taxol in a small quantity of leaves to produce the drug at lower cost, with no harm to the tree itself. Without the collections and the basic systematic research on those collections, this medical breakthrough would not have been possible.
- DNA is proving to be an enormously valuable resource for understanding our world and for developing a wide number of new advances helpful to our society -- in agriculture, medicine, and technology. It took several decades of solid basic research for scientists to understand the structure and potential of DNA, research that today provides the basic building blocks for these advances. For example, a gene for resistance to cold temperatures has been extracted from an arctic fish and can now be transferred to commercial crop plants, extending those crops' useful growing season. Our collections of museum specimens turn out to be a veritable treasure trove of the basic genetic material of life, DNA.
- The Simian Immunodeficiency Virus has turned up in African monkey specimens from the collections at the National Museum of Natural History, specimens that were collected between 1896 and 1971, long before the spread of AIDS among humans. This strengthens the case for the recent evolution of HIV from the monkey virus, and provides an essential historical perspective on the disease. An NMNH zoologist and his colleagues pioneered this use of museum specimens in basic medical research.

It is often difficult to distinguish between "basic" and "applied" research, as these examples demonstrate. While scientists at the Smithsonian aim to better understand the world around them -- whether this be the tropical rainforest, or the Chesapeake Bay, the rainforests of Brazil, or the stars and planets -- the knowledge they create, and the methods they develop, inevitably feed into the advancing technology and scientific advances that are increasingly important to all of us.

## GLOBAL BENEFITS OF SMITHSONIAN RESEARCH

Mr. REGULA. Do you find that international groups—i.e., other governments, other universities around the world—use the product of your research efforts?

Dr. HOFFMANN. Yes. In fact, one of the things that we do quite well is to work with other scientific groups in other parts of the world, and we do so by means of training courses which are focused short courses—they may be two weeks; they may be ten weeks—that bring scientists to a place. It might be here in the United States or we might take our instructors there in order to show them how certain kinds of scientific questions can be examined. These largely relate to environmental studies of various sorts.

Mr. SKAGGS. Mr. Chairman, would you yield—

Mr. REGULA. Yes.

Mr. SKAGGS. I don't know whether this would help or not, but I'm aware that one of the measures that many universities look to of the quality of the work being done by the faculty is the citation rate in scholarly journals. That sort of struck me as a little incestuous, but it tells you something. I don't know whether you have any way of tracking Smithsonian-funded research being cited in other scholarly work, but that might be one way of responding.

Dr. HOFFMANN. Yes, we do use citation frequency. We use it in evaluating the research of our scholars. This is scientific work primarily. And it is part of what is looked at when we are deciding whether or not to promote someone.

Mr. REGULA. Do you get reimbursed for the expenses if you are providing facilities for others?

Dr. HOFFMANN. Yes, for these training programs there's very little in the way of Federal support that goes into them. We rely on raising money from Government organizations, such as USAID, or from foundations, a few trusts, and the like, and the foreign governments also often make an in-kind contribution.

Mr. HEYMAN. A very good example is in Panama, Mr. Chairman, because there a number of foreign scholars come from universities, especially in Europe, but elsewhere also. There's a whole schedule of fees that have to get paid, which are approximately the cost of housing them and providing the support they need for their research.

Mr. REGULA. I would assume from this that you get a lot of individuals that were in the domestic university system that also use—

Mr. HEYMAN. Yes.

Mr. REGULA [continuing]. Facilities. I would assume that STRI at Panama probably has the most superior tropical research facility in the world.

Mr. HEYMAN. It does. And, as you've noted, or Chairman Livingston noted, it has not been an expensive set of facilities, but it really is first rate. My wife and I went down there about three or four weeks ago, and my mind was opened with respect to the quality of the work that's going on there and the quality of the facilities, especially the new facilities, because not only is there systematic biology going on, which is really collection of specimens, but there's microbiology now about to go on there at the same place, and that's

really a rather extraordinary undertaking for a location in the tropics.

#### GLOBAL WARMING

Mr. REGULA. Do you get into the question of worldwide environmental problems which are perhaps exemplified by "global warming"?

Dr. HOFFMANN. This is not a principal object of research, but we do make contributions. The Tropical Research Institute, for example, has long-term meteorological and other environmental records going back for 20 and 30 years. And we have been tracking those phenomena that are generally called El Nino, the warm pool of Pacific water that periodically builds up and causes things like the terrible floods in California. So we can contribute to that, although, obviously, many other governments and agencies are working on that. We do make a contribution, both at STRI and at our environmental research center on the Chesapeake Bay where we are doing in-depth studies related to such things as changes in atmospheric composition, in fallout, either wet or dry, from the atmosphere, its effect on vegetation, how it works and how these things work their way through the environment, ending up in the Bay, and the like. So a lot of that goes on.

Mr. HEYMAN. One fascinating thing that I'm not fully cognizant of, but I have begun to become, is that there are some folk over in the Museum of Natural History who are a little skeptical about some of the claims with regard to global warming. The basis for that for them is to look at specimens, fossil and others, over long periods of time, and to be able to determine fluctuations over long periods of time. So having the actual objects really can be extraordinarily important, and nobody thought about that application for their use, but applications just arise all the time.

Mr. REGULA. I suppose the development of DNA as a science has made your collections more useful.

Mr. HEYMAN. Yes, it certainly has.

#### SMITHSONIAN INSTITUTION'S RELATIONSHIP WITH PANAMA

Mr. REGULA. A practical question on Panama: you proposed a number of construction projects there that are rather expensive. What type of legal arrangement do we have? I assume this is land that's controlled or it's part of the country of Panama. What assurance do you have that we will have long-term stability there?

Mr. HEYMAN. Well, of course, we've had legal stability, but that has been dependent in part on the existence of the Canal Zone under U.S. jurisdiction. There has been a lot of conversation between the Smithsonian, through the Tropical Research Institute, and the Panamanian Government, and one of the reasons for my trip down a few weeks ago was to speak at least briefly with the President of Panama and to gauge what the receptivity is for continued good relations. I think we'll be shortly entering into a whole new treaty with them, and the level of enthusiasm with respect to our presence is great because I think the Panamanians really view us as a great asset for Panama, an intellectual center that will draw other people there, No. 1, and being very helpful potentially with their development of some of the lands that are reverting to

them from the United States in the Panama Canal Zone for various activities they're going to carry out. One of their plans, in any event, is for something called "the Knowledge City," in which they're really going to try to attract a number of scholars from a number of places for a number of activities, and they really see us at the heart of that.

So my guess is, with the very adroit leadership of our director down there, I think it will be okay, but we'll see within the next four or five years whether that prediction is correct.

Mr. REGULA. But wouldn't you hesitate to invest too much in the way of construction until you have a stable relationship?

Mr. HEYMAN. Well, that's a thought, and I think we've really thought about that a lot in terms of the plans we've undertaken.

#### GUIDELINES FOR BALANCED EXHIBITIONS

Mr. REGULA. On a less esoteric subject, a recent article in U.S. News and World Report entitled, "A Museum in Crisis"—and I assume you've seen this—attempts to trace the long-festerling dispute over how the Smithsonian should be telling the story of American history. How do you react to this article and does it have validity?

Mr. HEYMAN. Well, one of the problems with all of the discussion that has arisen, especially in relation to the Enola Gay, and some observations of the sort that were in U.S. News & World Report, is that the whole of the Smithsonian is somehow embroiled in this. Of course, the controversial exhibitions that have been involved at the Smithsonian over the past number of years are really a very small proportion of the whole. But let me tell you how I feel about this subject.

In the old days, what museums did, essentially, was put out objects and people came and brought whatever they had in their heads to viewing that object. What's happened over the last 15, 20 years is that the museum profession has gone in the direction of doing interpretative exhibitions. So they've added a lot of context to the objects.

There are different reactions to doing that. Putting aside the political spin that is or is not put on an exhibition, some folks just like to look at the objects and don't think the rest of it is an aid at all. There is a dispute, for instance, with regard to the First Ladies' exhibition of whether we should simply have the gowns or if we should have much more explanatory material with regard to the people who are inside of the gowns and what they did during their period of being First Ladies. I think it's fair to say that most people kind of like the context because it really is an enriching education. It's brought to bear at the point you look at the objects, but let me say that not everybody agrees with that.

When I went out to see our telescopes in Arizona recently, I was in Tucson, where the headquarters is, and I went into the State Museum of Arizona. The State Museum of Arizona has a very elaborate exhibition presently of Indian tribes in Arizona, and that whole exhibition is the history of the beginning and the dismantlement, to some extent, of those Indian tribes, and it's very straightforward. I don't—I didn't have the sense that anybody was preaching to me or anything else, but it was very straightforward and I

learned a lot more than I otherwise would by simply looking at artifacts.

So I think we're going to continue both to do objects—certainly, the objects that speak for themselves. And what I mean by that is that people know enough and feel enough in relationship to the—you don't need a big explanation of Old Glory. You don't need a big explanation—at least you haven't up to now—for the Spirit of St. Louis and other objects that just are part of our collective heritage.

But for a lot of other things, education really comes from context. But once you get into interpretative and educational exhibits of that sort, you start to worry about what message is being given and how is that message being given. I think that what we had thought up until recently is that curators are the ones who create the exhibition and they're the last word with regard to content, and we have thought about them a lot like one would have thought of me a couple of years ago when I was teaching, that I what I do in the classroom and the like is up to me, and other people aren't supposed to regulate it.

Well, I've tried to make it pretty clear that in my view books that curators write belong to them. Articles that curators write belong to them. But what goes up on the wall belongs to the Institution, so that we're collectively responsible for it. Maybe in some instances we might experiment with exhibitions that are signed, but, nevertheless, people expect, if it's up there, it is the Institution's product and not simply the product of an individual.

So I am trying to orchestrate now, with the help of my colleagues, a whole set of conversations within the Smithsonian with respect to, how do you handle these kinds of matters? How do you try to make sure they are really balanced? How do you try to make sure that there aren't subliminal messages being given? How do you try to make sure there's a very explicit statement of what this exhibition is about?

And, by the way, if you really ask for real explication of it, then people have to start to face up to not only what they're trying to do, but what is occurring that might be unintended. We're in the middle of trying to get a whole sense of ourselves, and, also, I've really made it pretty clear that the directors of museums are really responsible for exhibitions which are improperly controversial. These are tough definitions, and you don't want to squelch the creativity of curators because you really want them to be creative and the like, but, on the other hand, there is some stuff we have had up that I think really bears applying some rules of the game because I think that we haven't been careful enough on those. I've come into this job undertaking a number of difficult circumstances, and this one's hard in the sense that it's running uphill against what are just the perceptions and the history of how people behave, but we'll do it. So I look at that article as another prod for us getting on and getting this done.

We're going to have a very interesting conference on the 19th of April out at the University of Michigan. That was one of the things I said when we decided to change the Enola Gay exhibition, and we're taking the subject straight on, and we're bringing a lot of people together, and I think some very interesting analysis and product will come out of that conference.

Mr. REGULA. I might say we share a common concern. I've discovered the job's a little more than I anticipated, too. [Laughter.] I yield to Mr. Skaggs.

Mr. SKAGGS. Mr. Chairman, thank you for yielding.

I just wanted to make an observation in this context, and it relates back to the earlier conversation about the Enola Gay. It seems to me inherent in Mr. Smithson's charge in the dissemination of knowledge that one encounter a certain level of disagreement and controversy, and ideas are not going to be germinated out of a homogeneity of views. And so if you're going to fulfill a very worthy mission for this country and this culture, I'd hate to see you intimidated by the political correctness of any particular time in our history from continuing to stretch minds. That's a difficult balance to strike, given that you have Federal money entrusted to you, but I think there's a way to do it without sort of becoming bland in the process.

Mr. HEYMAN. I think that's what I'm really trying to do. I mean, for instance, as I say, I think we ought to take on controversy, but I think we've got to give more than one point of view. I think that if, for instance, in an exhibition, as is presently true, it turns out that, for understandable reasons, one has selected a bunch of events—I'm talking about Science in American Life—that are all controversial in order really to rivet attention and especially to get kids interested and involved in the show, at the same you have to understand that that approach, by leaving out triumph, is rather denigrating to a whole bunch of people. So you, in some sense, must also get that in there in order to be accurate. That's the kind of thing I'm groping for.

Mr. REGULA. Well, I have to assume that your mission is to insure that there's objectivity in the interpretation as presented. I might say that it's my plan to adjourn here in about the next seven or eight minutes, and I'll have a lot of questions for the record, and I'm sure some of the other members will, too.

Mr. HEYMAN. Surely.

#### ELECTRONIC OUTREACH

Mr. REGULA. I'm interested in the America Online. One of the concerns I've always had with, whether it's the Woodrow Wilson Center or the Smithsonian or the Library of Congress, or whatever, is this outreach, because, ultimately, the budget is paid by the American taxpayer from 50 States, and there's such an enormous value to what's done in the Smithsonian that it seems unfortunate that maybe a very limited number of people get there. I don't know what percent of the population ever gets to the Smithsonian, probably 20 max. That may seem some days like 100 probably, but—that's true here in the Capitol. Even if they were to come here, it would take months to ever really see it adequately.

What's being done to reach students in a classroom in Navarre, Ohio or wherever?

Mr. HEYMAN. I'm going to say one very general thing and then I want Lee Denny, who is the new Senior Information Officer at the Institution, to talk a little bit.

I said it when I took over last September, that I had two or three objectives. I said that we weren't going to grow physically. At least

until you fellows balance the budget, that probably was not going to occur, but what we had to do was to grow in access, and we had to bring the Smithsonian to a lot of people elsewhere. So, I mean, there are a lot of cliches in this game, but we really did have to be in some way without walls.

We've really been taking this very seriously in this first six, seven months. Well, we had been previously, but we're trying to do it in a much more coordinated way, and here's one of the fellows who's really making that possible.

Mr. REGULA. And I'd ask you to comment on the magazine circulation, and so on. I read it; it's excellent.

Mr. HEYMAN. We have about 2.21 million—is that it?—for circulation. That's stood up and it's been about that.

Mr. REGULA. Do a lot of those go to libraries which would, of course, mean—

Mr. HEYMAN. Yes.

Mr. REGULA [continuing]. That a lot more people would read it—

Mr. HEYMAN. Yes, yes, yes.

Mr. REGULA [continuing]. Than would be indicated by the raw numbers?

Mr. HEYMAN. It used to be a very profitable operation, too, but with paper costs going up and advertising revenues going down, we don't make nearly as much off of it as before, but we make something.

Mr. REGULA. It's well done.

Mr. DENNY. I think I'd like to comment specifically on some of our electronic outreach. It's not the only kind of outreach, obviously, we do, but it's certainly part of my job and what the Secretary brought me in to do.

The America Online relationship began about 18 months ago and is almost an experiment of how we could get objects in pictorial form out to the public. Since that time, we've had something in the neighborhood of 50,000 hours of usage for that service. At the same time, we've been using Internet, which is also probably much more publicly accessible over about the last three years for more research collaboration, and, again, over about the last 18 months for more educational purposes. And we have redoubled those efforts over the last six months to strengthen our network here on the Mall, so that we could begin to make a great many more things available throughout the country. We have put together a product that we will be offering over the Internet that will, even in its initial stages, have something in the neighborhood of 18 to 20 hours if you sat down and went through every aspect of it. So it would be a very extensive Internet product. That will be available to the 30 million or so people around the world who currently have—

Mr. REGULA. Who are subscribers?

Mr. DENNY [continuing]. Who have Internet access—

Mr. REGULA. Right.

Mr. DENNY [continuing]. Through universities, public libraries, school systems. There are about 40 percent of the schools in the United States that have Internet capability, only 3 percent of the classrooms, unfortunately, but that's growing exponentially.

So we view this type of electronic access as a real opportunity for us to carry everything we do here on the Mall to everyone in the country, and we have an enormous amount of focus in that area and an enormous number of people that we're collaborating with in both the public and the private sector.

Mr. REGULA. Do you have any way to gauge the usage of this?

Mr. DENNY. We have not turned our—the new product loose yet, and I do have a statistical capture within it. Within the existing products that we have now, just say in our photo services that we have online, we have a photograph being downloaded about every 78 seconds day and night from that service. We have had access from 84 percent of the countries that are being serviced now by Internet, which is—it's probably 80 to 90 percent of the countries in the world. So it's been an absolutely amazing amount of activity for something that we have not advertised or promoted in any way.

Mr. REGULA. I'm not an expert on it, but, as I understand it, don't you have to digitize the—

Mr. DENNY. Yes.

Mr. REGULA [continuing]. Exhibits to put them on Internet?

Mr. DENNY. When we look at our critical success factors in this type of access, the foundation pieces of that are digitization and having enough network there to get the things out. Obviously, our objects are exciting, but they're three-dimensional. They're difficult to digitize. We want good text around them so we tell a good story, and we put it in context, and they're equivalent to an exhibit, but we have 140 million objects. That's an immense amount of material to digitize.

Mr. REGULA. That's amazing. I think I read where somebody was giving a tour in some overseas location, and they had the equipment there so that you could follow them on Internet as if you were there.

Mr. DENNY. Yes.

We essentially have that type of capability established now and we're just in the process of making that available to the public.

Mr. REGULA. Would a scholar in California be able to Internet or interconnect with your Tropical Research Facility in Panama?

Mr. DENNY. Yes. Yes, we have that capability now.

#### ELECTRONIC OUTREACH FUNDING

Mr. HEYMAN. Let me just say one thing also. First, part of this is awfully complicated because there are so many different things that are possible, and we're beginning to touch this and touch that and touch the other as we experiment. Secondly, there's no free lunch in this game. The cost of putting a lot of our stuff in digital form is going to be very expensive. Thirdly, I'm a realist and I recognize I've got to get this money from some place other than here. And, fourthly, we can put stuff on a network, but we can't really assure easy access to this material. So, fifthly, we've got to be in partnership with the private sector on this. My rules of the game for that are that we're going to enter appropriate arrangements so that our materials really are accessible around and we're going to recover from that no great big profit, but the cost of doing our digital conversions.

Along those lines, we are presently interviewing about 15 corporations that in one form, shape, or manner are in this game, and we've now done three or four, and we're going to, over the course of the next month, we will have done them all. What we're trying to do is to get educated enough to know how we'd even write a request for proposals. But as we've started now, some kind of exciting things jump out in terms of the interest of various private sector firms in getting access to us and what are going to be some of the rules of the game. One of the rules of the game that's been clear is that, as far as the use of whatever it is for educational purposes in K through 12, or the like, it's got to go free. So that's part of what is in the midst of all this discussion.

I don't have any plan at the moment because I'm being educated, but I really have a sense of optimism talking with everybody that we're going to be able to pull this off somehow.

Mr. REGULA. Well, I think this is extremely important and an enormous multiplier in terms of the use of facility.

#### MUSEUM OF THE AMERICAN INDIAN COLLECTION ON DISPLAY

I was curious—I saw just that one pod or one display there. Of the number of items that you have in storage, what portion of those would you be able to display in the museum itself if it were to be built on the Mall?

Dr. HOFFMANN. The Indian Museum?

Mr. REGULA. Yes.

Dr. HOFFMANN. This collection is from—

Mr. REGULA. I don't mean of that one, but generally. Of the total number of artifacts that you have stored, what percent of those could be displayed in the museum at any one time?

Dr. HOFFMAN. Okay, the number is quite small, on the order of no more than 5 percent, depending upon the—

Mr. REGULA. Would you contemplate rotating them then?

Dr. HOFFMAN. Yes, we do that, and we also, depending upon temporary shows—two sorts of display. One is the so-called permanent display where the objects may be there for several years. The other are temporary exhibits, where we wish to illustrate particular things, and those things come out of the study collections and they go on to display for a particular purpose.

Mr. HEYMAN. But the other thing I think that's going to be especially important with regard to the Indian Museum is traveling exhibitions, and I think we're going to be able to bring a lot of these artifacts to the Indian people where they are, because they're not going to come to where we are very often. I think that's going to be quite possible. In fact, I'm going over in about an hour to talk with one of the Senators from Alaska about how to bring materials we have in the Museum of Natural History that are Alaskan Native materials both to permanent or at least semipermanent exhibition in a museum in Anchorage, but also a rich set of exhibitions that will go around Alaska to where Native peoples are.

So I see this one, I see the American Indian one, really has a potentiality for that, probably more so than other objects that we have.

Mr. REGULA. Well, I'll put the balance of my questions in the record.

## CLOSING REMARKS

Mr. REGULA. I've just commented we have two things in common. One is, of course, we're both new challenges, but also we both have some tough prioritizing to do, and I don't know if you'd like to make any final comment before we adjourn.

Mr. HEYMAN. Well, sir, I found this a very useful session for me in a lot of ways, both learning in terms of attitudes and priorities, but also getting—you know, the more you talk about stuff that's close to your heart, the better you understand it. So this has been a good opportunity for me.

Mr. REGULA. Thank you all for coming.

The committee's adjourned.

[COMMITTEE NOTE.—Additional committee questions and answers for the record follows:]

## ADDITIONAL COMMITTEE QUESTIONS

## Restructuring

Question 1: The Smithsonian proposed a reorganization late last year that involved the consolidation of programmatic activities, operations and administration. The Committee has not yet approved the reorganization and yet your budget justification indicates that you have implemented the reorganization. Is this accurate?

Answer: The Smithsonian Institution budget request for FY 1996 reflects the proposed reorganization. Because there was no immediate budgetary impact, the Institution prepared its budget request along the new organizational lines in anticipation of Congressional approval of the reorganization.

Question 2: Could you explain for the committee specifically how this restructuring will result in efficiencies and savings in both the operations and administration of the Institution as well as the programs and research efforts?

Answer: One of two major components of the proposed restructuring is the establishment of the Office of the Provost. This office will have responsibility for oversight of all programmatic and research activities within the Institution. One of the first tasks of this office will be to restructure the offices of the Assistant Provosts for Sciences, Arts and Humanities, and Educational and Cultural Programs so that the administrative functions of these disparate staffs are consolidated into one. The other major component of the proposed restructuring is to consolidate all administrative operations under the Office of the Under Secretary. By having these two offices report directly to the Secretary, more coordinated control can be achieved.

Question 3: If there has been actual savings from your downsizing, streamlining efforts, what were those savings and were they applied to programmatic increases or applied toward deficit reduction, or a combination?

Answer: The actual savings from downsizing were \$9.5 million. Of this amount, \$3.1 million was applied to FY 1995 reductions; the remaining \$6.4 million is shown as a reduction to the FY 1996 request. The positions associated with the savings have been applied to meet the President's Executive Order to reduce the federal workforce.

Question 4: How much of the savings were associated with the Congressionally-approved buy-out program and how much was a result of the Institution's internal streamlining?

Answer: The \$9.5 million in savings was associated with the Congressionally-approved buy-out program.

### Budget Reduction

Question 5: The FY 1996 budget request is \$36 million higher than 95 enacted. There are increases in each category, Salaries and Expenses up \$11 million, Construction is up \$9.4, Zoo Construction is up approximately \$1 million, and the Repair and Restoration account reflects a \$10 million increase.

If the committee allocation for FY 96 reflected a 5 or 10% reduction compared to current year, how would you reduce your budget submission? Please be specific.

Answer: The Institution, if such reductions were mandated, would prefer to take the percentage reduction and then make decisions on how to specifically reduce its budget. There are many areas that could be affected by reductions of this magnitude, as shown below:

- Drastic staff cost reductions through reductions in force, hiring freezes and furloughs
- Closing of museum galleries or reducing public hours in order to reduce security costs
- Curtailment or elimination of research projects throughout the Institution
- Reduction or deferral of critical collections management activities
- Drastic curtailment of all employee travel, training and overtime; curtailment of supplies and equipment purchases; curtailment of all other non-critical purchases
- Reduction of the Traveling Exhibition Service's outreach programs

### Exhibits Controversy

Question 6: A recent article in U.S. News and World Report, entitled "A Museum in Crisis," attempts to trace the long festering dispute over how the Smithsonian should be telling the story of American History. Although the recent Enola Gay exhibit, which enraged World War II veterans by insinuating that the Japanese were innocent victims of an unnecessary act of vengeance, was the most egregious example of reinterpreting history, there have been others over the last few years. Some include the recent Science in American Life and an American History Museum exhibit on life after the Revolution.

What is the Smithsonian doing to reassess the way major exhibits are planned and interpreted?

Answer: Under the auspices of the Office of the Provost, the Smithsonian is undertaking a comprehensive review of how each Smithsonian museum develops exhibitions. This effort will result in the development of a policy on exhibition processes that should ensure objectivity, accuracy and balance in public exhibitions.

Question 7: Would you say that part of the problem stems from virtually no oversight by top management and no official guidelines?

Answer: There have been no institution-wide guidelines, nor a strict policy on the manner in which the Institution should address controversial exhibitions. In the case of the Enola Gay Exhibition, the principal flaw lay in the National Air and Space Museum attempting to couple an historical treatment of the use of atomic weapons with the 50th anniversary commemoration of the end of the war. Granted, exhibitions have many purposes. The Institution needs a process to determine which of many goals is paramount and how to help ensure objectivity, accuracy and balance. Such processes will improve oversight by senior management in the early stages of exhibition development.

Question 8: What is meant by political correctness?

Answer: The definition found in the Random House Word Menu @ 1992 states:

"politically correct (adj.) marked by or conforming to typically progressive, orthodox views such as environmentalism, pacifism and social equality for those outside the white male power structure and Western, Judeo-Christian tradition".

The term has no specific meaning within the Smithsonian.

Question 9: Some major exhibits involve as much writing as object display. Is there any consideration being given to displaying smaller exhibits so that the general public can spend less than several hours in an exhibit and still come away with a feeling of understanding and appreciation of the exhibits theme?

Answer: The Smithsonian does attempt to present exhibits in a broad size range, with some as small as a single display case. However, we can and must continue to understand the best ways to communicate through exhibitions.

Question 10: Based on your experience with the Enola Gay exhibit, might it be more important to focus the interpretation and context of the exhibit on explaining events as they were understood and experienced by the people living at the time, as opposed to raising issues that have come up since the incident?

Answer: Each exhibition topic is different. It is difficult to make a declarative policy that "all exhibitions must explain events as they were experienced and understood at the time." However, we can say that there should never be confusion with regard to the basis of the facts and interpretation.

### Collecting Fees

Question 11: Last month we conducted oversight hearings on how to downsize government. Several groups such as the Heritage Foundation recommended that Smithsonian charge admission fees to help partially offset operational expenses.

Last year, the Smithsonian, with the approval of the Board of Regents, ran pilot projects to collect fees at several locations. What was the result of that effort?

Answer: On March 25, 1993, the Smithsonian began a demonstration project for voluntary contributions in four museums (National Portrait Gallery, American Art, Anacostia, and Air & Space) and the Zoo. Eight collection boxes were created for these locations.

The capital start-up costs for this project were \$25,000. An additional \$6,430 has been spent on supplies for videotaping each cash count and for the redesign of two boxes at the Air and Space Museum, making a total of \$31,430 in cash outlays. Donated equipment valued at \$10,000 also was used to establish this project.

As of March 9, 1995, approximately \$60,000 has been collected in the eight boxes. Thus, this project has netted the Smithsonian \$28,301 over the two year course of the demonstration project.

Question 12: What was learned from the experience?

Answer: Originally, the collection boxes were all placed away from the entrances or exits so as to not imply mandatory donations or admission fees. They were also placed away from the building entrances for security reasons. Because the early results of the project were not encouraging, a decision was made to redesign the boxes and place them closer to the entrances. Initially, it was assumed that the boxes should be generally uniform in design. Over time it became apparent that the boxes should relate more closely to each of the individual museums. Air & Space redesigned their two boxes into "space ships" and installed them closer to the entrances in December, 1993. Since that time, the collections there increased two fold over the original monthly collection rates.

The major lessons learned were: 1) the public is not offended by a request for voluntary contributions; 2) we must be more aggressive in the design and location of the contribution boxes; and 3) we must explain to the public the importance of their giving to the Institution and our ability to be an exciting and forward-looking Institution.

Question 13: Could adjustments be made to improve the collections?

Answer: In December of 1993, the two collection boxes in the Air and Space Museum were redesigned and physically moved to the entrance areas. Both of these actions improved the amount of money collected to a significant degree. Further adjustments could be a stronger message to the public regarding the rationale for the contributions.

Question 14: Most large city museums in this country have either an admissions fee or a range of voluntary collections. The Metropolitan Museum of Art in New York is quite aggressive with their voluntary fee others have collections boxes located at various places throughout the museums. Does the Smithsonian have specific plans to implement a new program? If not, why?

Answer: While these issues are considered from time to time by the Institution's Board of Regents, that consideration never occurs in isolation from the overall consideration of a variety of revenue-generating options; concern about accessibility by the public that the Institution is mandated to serve; and the economic environment in which it exists.

As was noted in previous questions, the Institution can and should make more adjustments with regard to its voluntary contribution initiative. With regard to admissions, the Smithsonian Institution staff continues to believe that the Institution is special in the world in that it does not determine who comes to the museums along economic lines.

Question 15: What is the approximate amount of revenue collected at the Met in New York? At other major museums? The Smithsonian visitor figures for FY 1994 were in excess of 28 million. What is the potential revenue for the Smithsonian's 16 museums and galleries and the Zoo if fees were collected?

Answer: According to the Met, the total amount of admission fees collected has averaged approximately \$8.6 million for the past several years. This year, however, it is projecting revenues more than \$11 million due to a greater number of exhibition openings than usual. The experience of the Met is that revenue fluctuates with the exhibition schedule.

In evaluating visitor information for the Smithsonian, it is important to note that the figure generated represents the number of visits, not visitors. Therefore, the figure of 28 million for FY 1994 represents the number of visits counted. These visitor counts do not discriminate among one time visitors, repeat visitors, visitors to multiple facilities, staff, contractors, and others conducting business with the Institution. Estimates suggest that approximately 10,000,000 individuals visit the Smithsonian each year.

Any effort to consider the potential revenue that might be generated by an admission fee must take into account a variety of considerations. At the outset are the establishing authorities of the museums, which, in the cases of the Freer, Sackler, Hirshhorn, Portrait Gallery, and the National Museum of the American Indian, state that they are free, public institutions. Thus, only certain museums could charge fees.

Of more immediate importance, however, is the fact that in FY 1994 the Smithsonian generated nearly \$23 million - about 5.5% of its total operating income - from sales of objects, food, and publications, together with membership activities and miscellaneous income. All of these activities are tied to one degree or another to freely accessible visits to the Mall museums. Rather than producing revenue for the museums, admission fees are likely to reduce attendance, and therefore sales. While fees alone would deny to large segments of the public the fullness of the current museum experience, through the reduction

in sales and net operating income they also could deny the Institution the margin of resources that assists in acquiring significant objects for the collections, maintaining a vibrant exhibition program, and developing electronic communications systems to reach those in communities beyond the Mall.

Question 16: I believe there was also thought given to opening museum shops at different locations throughout the city and eventually the country. As you know the Met and the Boston Museum have done just this and their stores have been quite successful in raising additional revenue. I believe you ran such a test program at a popular Mall in the Maryland suburbs recently, what was the result of that demonstration?

Answer: The Museum Shops Division of the Business Management Office conducted a test project for off-Mall retailing during the Smithsonian's holiday season of 1993. From October 15, 1993 until January 30, 1994, the Division rented approximately 2,500 square feet of retail space in the White Flint Mall in North Bethesda, Maryland on the second level near Bloomingdale's. The Friends of the National Zoo (FONZ) rented a similar retail space adjacent to the Smithsonian's. For the period that the Smithsonian Shop was open, the Division generated enough cash flow to cover all of the operating expenses for the Shop, the full costs of the build-out for the fixtures, and a small profit. For the short period that this shop was open, this represents a reasonable operating performance, bearing in mind that these three months represent the strongest retail sales period of the year. The inventory for this Shop was taken from the existing merchandise carried in the Mall Shops.

It was determined that much of the traffic in the White Flint Shop was the result of the traditional Smithsonian shoppers being able to shop at this intercept location in the Maryland suburbs without having to travel to the Mall in downtown Washington. Long term, this would defeat the purpose of promoting, within the metropolitan Washington area, visitation to the museums with the additional benefit of a shopping experience. Shopping in the museums is seen as an enhancement for the visitor. The opportunity to increase, not circumvent, visitation should be stressed as the desired goal.

Question 17: Do you have plans to expand that project?

Answer: In 1994, the Business Management Office thoroughly researched the financial implications of a true off-Mall (midtown Manhattan in New York City) location which could leverage the Division's strength of appealing to a broad mix of transient customers' interests in the arts and sciences.

The senior management of the Institution determined that the near-term financial position of the Unrestricted Trust Fund would not be able to support the additional required asset investment for inventory and leasehold improvements to the physical space. The return on investment would be significant for the Institution, but only after the second full year of operation. The Institution's Trust funds cannot absorb that burden of financial risk alone at this time.

However, the Institution will be opening a shop at the Baltimore Washington International Airport in a cooperative effort with the State of Maryland. In addition, the Institution will have shops in conjunction with the traveling exhibition, America's Smithsonian, to twelve cities in the United States in 1996 and 1997.

Question 18: If not, can you explain why admission fees and other revenue enhancements such as museums shops outside the museum work for other institutions and not for the Smithsonian?

Answer: Meeting Smithsonian standards and achieving success in an highly competitive off-Mall retail environment such as Fifth Avenue in New York would require a very substantial investment of resources in, among other items, the development of specialized products and the acquisition of inventory. We will, however, continue to assess the costs and benefits of a number of revenue-generating activities including arranging to have SI licensed products sold in established businesses.

Question 19: Mr. Secretary, your budget justification speaks of the need to rely more heavily in the future on private support. You have also been quoted in various newspapers on this same issue. What specific plans do you have for raising funds and how would they be used -- to offset operations , research or construction?

Answer: The Smithsonian's future plans for fund-raising activity will support the long-term strategic plan we are developing. While the Institution anticipates a continuing need for unrestricted support -- and will rely heavily on its business activities for a major portion of same -- a significantly expanded effort already has been initiated to secure additional funds from non-Federal sources to help meet both our restricted and unrestricted needs. Specifically:

The Smithsonian's 150th Anniversary Celebration is being planned to build on the Institution's fund-raising and marketing strengths.

The National Campaign for the National Museum of the American Indian and an eventual effort to support the National Air and Space Museum Extension are two construction projects for which we are and will be seeking private funding.

Our fund-raising efforts among prospective individual donors will be accelerated by a recent administrative decision which placed the Contributing Membership program under the purview of the Office of Development. That decision will contribute to our intensified efforts to build the Smithsonian's endowment through the Smithsonian Fund for the Future, with leadership provided by the Smithsonian National Board. Increased endowment funding will stabilize the Smithsonian's programs in research, education, acquisition, fellowships, and internships.

### Setting Priorities

Question 20: Federal discretionary budgets have been on a downward slide for several years now and the likelihood that this trend will continue is very high. In fact, it is likely that the FY 96 allocation to our subcommittee will be dramatically under current year funding. With these facts in mind I would like to know:

Can you describe your priority setting process? I ask this in light of the fact that you obviously have significant deterioration of older structures, and the need for collections storage is significant. At the same time, you have three separate facilities in mind for the American Indian Museum, one just opened in New York, one planned for Suitland, and one for the Mall; you are planning for the Air and Space Extension at Dulles and the Old Post Office Building renovation; and you have been exploring the idea of a new Afro American Museum.

Answer: As one of his first acts, Secretary Heyman has begun a strategic planning process intended to take a comprehensive look at the Institution's programs and operations and to reevaluate priorities in light of the current and anticipated funding limitations. It is intended that this process will be completed by the end of the fiscal year. Beginning in 1977, the Board of Regents of the Smithsonian and the Secretary established a five-year planning process. That process produced a five-year prospectus to outline the Institution's program plans for the next five fiscal years and describe longer-term plans for construction and facilities. In addition, there is an annual planning and budget process which enunciates the more immediate priorities for spending. Both of these processes were comprehensive and required the input of every office in the Institution. Annually, the Under Secretary conducted individual hearings with each museum, research center, and office to discuss needs and priorities. These individual priorities were then evaluated based on available resources and the goals of the Institution to arrive at a set of Institutional priorities.

The Institution also has an established Capital Program Planning Board, chaired by the Under Secretary. This Board establishes priorities for construction and for repair and restoration of the Institution's facilities. As part of its work, this Board assesses the impact that the construction of a new facility will have on the Institution's operating budget.

Question 21: While some of these projects have involved a private cost-sharing component, they eventually require yearly operations and maintenance funds. It appears as if the Smithsonian has not adjusted its planning for new museums and collections centers as Federal funds have declined. Can you explain this?

Answer: The Institution has, in fact, responded to the decline in Federal funds in several ways. One is by creating public/private partnerships. The National Museum of the American Indian is the principal example of this kind of partnership. The Institution is committed to raising one third of the cost of construction for the Mall museum. In addition, funds are being raised to endow the programs of the museum.

Recognizing that the Federal budget could not support the \$160 million needed to fund construction of the Air and Space extension at Dulles, the Institution has turned to two

other sources of funding. The Institution has signed a memorandum of understanding with the Commonwealth of Virginia that pledges interest-free loans, the installation of the necessary infrastructure at Dulles, and the issuance of \$100 million in State bonds at municipal rates to finance the enterprise. The bonds would be retired from income streams that the Institution currently is exploring. In addition, the Institution would also raise funds in the private sector. The total commitment of the Federal government for the extension would be \$8 million. As planned, this represents a significant leveraging of federal funds for those in other sectors.

Another recent example of a public/private partnership is a fund-raising effort currently being conducted by the Cooper-Hewitt. The Secretary has required that \$8 million be raised through private sources to assist with a renovation project which totals \$20 million.

The unsuccessful legislation before the Congress in the last session to establish the African-American museum made it clear that no federal funds would be sought for construction or operation of the museum. Again, the Institution intended to raise funds to support the ongoing operations of the enterprise.

The Institution is making difficult choices about which facilities it will be able to maintain. For example, the Regents recently gave their approval for the Institution to dispose of the Barney Studio House either through sale or by donating the house to a non-profit organization that is able to restore and operate the property as a house museum. This decision was based on the simple fact that the Institution cannot afford to repair the house or to operate it as a museum, particularly in light of more pressing Institutional priorities.

These examples serve to illustrate that the Institution recognizes that Federal funding will not be available to meet its growing needs. We will continue to develop new ways in which to address them.

### Collections

Question 22: Your request states that the Institution has over 138 million objects, works of art and specimens, 121 million of which are in the National Museum of Natural History. The Committee has appropriated approximately \$30M for new storage facilities and lab space in Suitland and it is estimated that by the year 2005, this space will be completely filled.

Given the fact that federal funds are limited, has the Smithsonian given any thought to limiting new acquisitions and downsizing the current collection?

Answer: Each collecting organization at the Smithsonian has a collection policy which establishes general guidelines for new acquisitions and also the deaccessioning objects from the collections.

The subject of collections acquisition, care and deaccession will be a major component of the Secretary's strategic planning process. The national collections are at the heart of the Institution. They are the basis for research, exhibition, public and educational

programs. The issue of downsizing the collections through such mechanisms as long-term loans will be carefully considered in the strategic plan.

Question 23: Do the individual museums have acquisition plans completed which prioritize the needs of the Institution with regards to the collections? In other words, how many of each object are necessary? What is missing from the collection and what might be considered duplicative to the Smithsonian collection or available at other major museums?

Answer: As required by the Smithsonian Collections Management Policy, each museum and collecting organization develops an individual collections management policy specific to the nature and needs of its collection. Each collections management policy consists of a statement of purpose, a statement of authority, a collecting plan, a definition of the collections, and a description of collections management activities. Collecting plans define the collecting parameters, goals and objectives of each museum and collecting organization in relation to its mission and collection. At a minimum, these statements outline collecting philosophies, strategies, and specify collection types the museum seeks to actively acquire. Collecting plans ensure logical and responsible collections growth by establishing well-defined goals and priorities that guide collecting activities. Smithsonian scholars work with colleagues throughout the world, sharing collection resources through loan and borrowing programs that minimize duplicative efforts in collections growth.

Question 24: Why do you feel it is necessary to keep so many collections?

Answer: The collections represent both the scientific and cultural heritage of the United States, as well as a research resource for scientists of today and tomorrow.

NMNH has over 121 million catalogued specimens. Some specimens are one of a kind, others are multiple samples of the same organism, mineral, or cultural object. Each specimen, however, contains unique information that can tell us about a biological, physical, or cultural pattern or process. The color or size variation of dozens of specimens collected over the geographic range of a single type of bird allows us to say that two quite different-looking individuals actually belong to the same species. Multiple specimens of the same kind of volcanic rock from different parts of the world have chemical variations that tell us about the evolution of the earth's crust. Hundreds of clay pots provide clues about differences among ancient cultural groups and even individual artists. Multiple samples are so useful in research and education that museum people often collect several of a kind as a matter of course; sometimes they collect large series for a particular research need. Specimens are not only used for descriptive purposes, but large quantities of the same artifacts are necessary so that researchers can support their interpretations with statistically significant findings. But we cannot keep everything, and the museum also is selective about what is catalogued for the permanent collection. We regularly make decisions to reject or deaccession collections that unnecessarily duplicate existing specimens or are judged to be of low priority or poor quality.

Question 25: How many new objects are acquired each year for the collection?

Answer: Collections are enhanced each year by the acquisition of new items which contribute to the understanding of our cultural and natural heritage and increase the value of our holdings as a research resource. In order to provide responsible stewardship of the collections held in trust by the Institution, proposed acquisitions undergo a rigorous selection and review process. Each museum actively assesses the degree to which new acquisitions are consistent with the mission of the museum; enhance objectives in research, exhibitions, or public programs; and can receive appropriate care and management. The Smithsonian acquires collections through gifts, bequests, purchases, exchanges, transfers, field collecting, and other methods which vest title in the Institution such as births and hatchings at the National Zoological Park. Each year the Institution acquires approximately 450,000 - 500,000 objects and specimens of which approximately 95% are for the National Museum of Natural History. However, it rejects substantially more because they do not meet the criteria that have been outlined.

Question 26: What is the current storage condition of the other museums and galleries?

Answer: Storage conditions range from the climate controlled, secure Museum Support Center to asbestos contaminated, World War II temporary buildings at the Garber Facility.

Question 27: What percentage of objects are damaged or destroyed each year because of substandard storage conditions?

Answer: In utilizing available collections storage space, the museums assign less sensitive objects to the least desirable space to minimize deterioration. Because of the vast size of the Smithsonian's collections, annual inventories to determine the condition of each object are not possible. However, we are aware of existing conditions that are causing certain collections to deteriorate, in particular the current storage facility housing the Heye collection of the National Museum of the American Indian. For the interim period the facility has been stabilized.

Question 28: What would be the cost of providing adequate storage for the other Smithsonian museums and galleries?

Answer: The National Museum of the American Indian's Cultural Resources Center, and the Air and Space Extension are the Institution's highest priorities for collections-related space. Estimates are \$50 million and \$160 million, respectively. The actual cost of these two projects would be dependent upon the construction start date.

Question 29: Is there a research fee charged to academia and other private interests for the use of research materials?

Answer: The Institution does not charge fees to scholars from other non-profit institutions (other museums, universities, state or federal agencies, etc.) for the use of research materials. Requests from private for-profit organizations to use research materials are comparatively rare, but the Institution recovers its costs on a case-by-case basis.

Question 30: Your budget justification states that the collections and information associated with them forms the basis of Smithsonian research, exhibitions and public programs. What percentage of these 138 million objects are on public display and how many are involved with public programs?

Answer: Vast as Smithsonian exhibition spaces are in what has grown over the years to an aggregate of 16 museums and the National Zoological Park, only a small proportion - approximately 2% - of the total collection holdings are on exhibit at any given time. Objects and specimens on exhibit may change as items often are rotated to provide the public an opportunity to see more of the objects and to safeguard their physical integrity. In addition, while only a select number of artifacts from a particular collection may appear in an exhibition, a greater portion is used in developing it. Supplementing traditional exhibition formats, collections also serve as the primary resource of interpretative public programs and discovery rooms, including behind-the-scenes tours, hands-on demonstrations, school and teacher-training programs, symposia, publications, films and videos, interactive and on-line services, and even musical performances.

Question 31: What percentage will be shown in traveling exhibitions?

Answer: The two percent of Smithsonian collections on public display includes objects in travelling exhibitions.

Question 32: What percentage is used primarily for research?

Answer: Collections-based research involves the entire spectrum of Smithsonian holdings with specific emphasis in certain collection areas. The collections in Natural History -- 121 million specimens or 88% of total Smithsonian holdings -- support the largest and most comprehensive program of basic research in systematics in the world. Such activities are founded on excellence in scholarship, vast and well-managed collections, and wide-ranging field investigations. Collections-based research in the cultural and historical fields (17 million objects) sometimes takes the form of analyses that disclose provenance, design, and fabrication, but more often relates the contextual role of objects in their institutional or societal settings, their purposes or uses, and the meanings attached to them.

The Institution also lends collections for research and study. Approximately ninety percent of total outgoing loans are specifically lent for research and study purposes in any given year. During the period of 1988-1994, over one million objects and specimens constituted research loans. In addition, the Institution's archival and library holdings, totalling 60,000 cubic feet and 1.4 million volumes respectively, support the research

activities of Smithsonian staff, visiting scholars and researchers, and the general public through reference and interlibrary loans.

Question 33: It appears that a majority of the collections is used for research purposes. Can you give the committee some examples of what that research has yielded, both basic and applied?

Answer: Basic research on the National Museum of Natural History (NMNH) collections results in the publication of over 700 books, journal articles, and monographs annually by NMNH scientists as well as contributions to many more articles and presentations authored by the hundreds of scholarly visitors and students from the international community that come to the museum or borrow specimens each year. The primary scientific literature serves the scholarly community and the public at large by providing an increasing, high-quality foundation of knowledge about the natural and cultural world and its history. The collections increase in value as reference materials when new studies are published and this knowledge is made publically accessible through publications, exhibits, and electronic media.

The NMNH collections serve as a national and international center for factual knowledge about the world in which we live. Whenever published interpretations are questioned (e.g., in legal disputes), it is critical to be able to go back to the original specimens to check the facts. Often the only way to resolve a dispute over species identification or the origin of a human cultural artifact is to refer to the original collections.

Concern about high levels of mercury in tunas and swordfishes led scientists to ask a question that only museum specimens could answer. Has the level of mercury in fishes been rising over time along with industrialization and pollution, or have fish naturally maintained what we consider to be high mercury levels? Sampling of tissues in museum collections revealed that mercury levels of tuna caught nearly a century ago, before widespread pollution, are comparable to those of fishes living today. Some fishes may always concentrate a background level of mercury in their bodies. Therefore, mercury in fishes today is not necessarily a result of their living in polluted waters.

How long has Lyme disease been present in eastern North America? Museum collections of ticks from the 1940's have been analyzed for the genetic indicators of the bacterium responsible for the disease. There is solid evidence that Lyme disease has been present for at least 3 decades, long before it was recognized by doctors. Not only that, but even older specimens show that Lyme disease has been present at some sites for much longer. The evidence from museum specimens and the information on when and where they were collected has allowed researchers to trace the spread of the tick and the disease it bears.

The NMNH bird collection is being used to help save human lives by identifying the remains of feathers from birds that get caught in airplane engines. One needs to identify the species in order to plan how to keep these birds away from airports or other heavily used flyways. By comparing bits of feathers from the "birdstrikes" to the reference specimens that are part of our extensive bird collection, researchers also can tell aircraft engine

designers the weights of birds that are potential hazards, enabling them to produce a safer engine.

Continued collecting and identification of the flora and fauna of the United States allows us to identify pests that threaten food production. Ongoing research by an NMNH Entomologist on a group of small, inconspicuous moths that are known pests in Europe and Russia unexpectedly revealed that one of these moth species exists in the U.S. The species in question, known as the Cereal Stem Moth, is an accidental import to our country and now is recognized as an important threat to the winter wheat crop. Its identification, which required the comprehensive collections at NMNH, allows agriculturalists to plan how to control it before it expands its threat to our crops by referring to information from other countries where the same species has been studied as a pest.

The Museum's American Indian Program sponsored a recent visit to the NMNH for seven members of the Southern Cheyenne Tribe residing in western Oklahoma. Tribal members came to study and interpret objects crafted by their ancestors as much as 130 years ago. Such visits benefit the tribal members because the collections tell them about their cultural past, and they also increased the value of the collections for future visitors by contributing their knowledge about the objects to the Museum's information database.

The Simian Immunodeficiency Virus occurs in African monkey specimens from the NMNH collections, which were collected between 1896 and 1971, long before the spread of AIDS among humans. This strengthens the case for the recent evolution of HIV from the monkey virus and provides an essential historical perspective on the disease. An NMNH zoologist helped to pioneer this use of museum specimens in medical research.

Some songbird species are disappearing, and the cause or causes are subject to debate. One hypothesis holds that their southern wintering grounds are being affected by deforestation. In order to test this idea, we need to be able to trace where birds that breed in North America spend their winters. Now this can be done by analyzing the chemistry of feathers from specimens of the same species in NMNH collections. Preliminary results indicate that populations of the Black-throated Blue Warbler winter on several different islands of the Caribbean. Linking declining species to specific wintering sites will be critically important for conservation planning. These are only a few of the many examples of both basic and applied research based on the NMNH collections.

Question 34: How has the quality of life for the average American citizen been improved by this research?

Answer: As demonstrated by the examples given in response to Question Number 33, the collections-based research at NMNH contributes daily to the present and future well-being of the average American by providing critical information on such things as the history and context of disease and its vectors, the effects (or lack of effects) of pollution and other forms of human impact on natural ecosystems, access to cultural history, safety in airplane design, and a myriad of other practical outcomes of work that is done by the Museum's research staff and by outside scholars that use the NMNH collections.

NMNH researchers use the collections to provide expert identifications and basic information to anyone who seeks their help, from U.S. government agencies to University professionals and students to the public at large. With the increase in media access to such information, the collections will become even more accessible as a source of facts and ideas for education and problem-solving. NMNH also provides training in museum curation and specimen-based research for students, teachers, and professionals from the United States and many different countries.

NMNH also increases the quality of life by providing intellectual stimulation, education and enjoyment for a broad sector of the public, primarily through exhibitions and other outreach efforts that educate and inspire over 6 million visitors annually. The Museum allows visitors to explore aspects of the natural world around us and how we as humans are part of that natural world. The impact of the "electronic museum" now planned to bring such educational experiences into homes and schools through the Internet will greatly expand the impact of this role.

#### Electronic Transformation

Question 35: Mr. Heyman, in one of your recent publications, you discuss the "electronic transformation" that is underway at the Smithsonian. The purpose, you state, is to make knowledge available to as many citizens as possible and to allow that access to be shaped by their needs.

Can you give the committee a brief range of the options currently available through these various systems?

Answer: The Smithsonian is currently using, and is further evaluating, a broad range of technologies to provide electronic access to the Institution's many audiences (the general public, students, teachers, scholars, museum professionals, etc.). Appropriateness to mission and cost effectiveness are the primary decision criteria in devising the Institution's outreach strategy. Initiatives currently underway include the Internet on-line access, Smithsonian On-line (through America On-line), a number of CD-ROM and interactive CD-ROM productions, interactive distance learning, broadcast radio, and television. As a major holder of artifacts, the Institution's strategy is to distribute rich "content" through currently established delivery mechanisms (private networks, public networks, and other distribution channels). The overall strategy is to use these technologies, in conjunction with more traditionally delivered exhibits and scholarly work, to reach audiences throughout the nation and the world. As CD-ROM (multi-media), television, and radio, are discussed at some length further in this section, the two key on-line initiatives underway will be addressed more specifically in answer to this question.

**Internet Access.** Consistent with the goals originally established for this service, Internet was initially implemented at the Smithsonian to provide collaborative capability for scholars and educators among the many communities of interest with which the Institution fosters participation. As the Internet's purpose has evolved, and its reach increased, the Institution's use has increased, and significant amounts of additional material (photographs, library catalogues, research material) have been

made available. With the focus of the education community on providing Internet access more generally in schools, libraries, and in some instances, directly to the home, the Smithsonian has begun to establish high quality material with both photography and text through the emerging Internet capability referred to as the "world wide web". The Institution has ready for imminent release, a large amount of general information about the Smithsonian based on existing printed material and is beginning to plan and implement specific electronic exhibits solely over the Internet, and in combination with more complex capabilities such as CD-ROM. Much of the education and library community will have immediate access upon release through their existing Internet network access mechanisms. More general public access to this service is offered through "value added networks" (VAN) such as America On-line, Compuserve, and Prodigy.

**Smithsonian On-line.** In non-exclusive partnership with a value added network supplier, America On-line, the Smithsonian established an on-line capability in 1993. The difference between this service and the Internet capability is that the supplier maintains the base of material on their equipment, it is available only to the supplier's client base, and the Smithsonian receives a royalty on access fees paid by the client base. This service contains over 500 photographs from across the Institution, teacher's classroom materials, "frequently asked questions", bulletin boards, articles from various museums, schedules of exhibitions (including traveling exhibits), and standard visitor's information. Additional information and context will be provided by the answers to the several following questions concerning the Smithsonian On-line and America On-line relationship.

These two on-line initiatives are being pursued concurrently and without substantial duplication of effort. In conjunction with a major "shake-out" of this industry in the following months, the Smithsonian anticipates that the two services will converge and rationalize (along with the network access and network content industries) into a single service with fee-based service providers focusing on more complex services such as knowledge "agents", credit card verification, and order provisioning (books, video, CD-ROMS, and other products). Most of the current services will be provided directly through Internet via all access providers.

**Question 36:** How much revenue is generated by each initiative?

**Answer:** The Institution currently generates no direct revenue through the use of Internet. Internet does provide a medium by which the Smithsonian can reference products that are sold, such as CD-ROM, video, and books.

From its June 28, 1993 launch through February 28, 1995, Smithsonian On-line generated \$30,615.66 in payments to the Institution.

**Question 37:** What is the difference between your new public access program, described in your 96 budget (three pilot projects) and the Smithsonian On-Line initiative?

Answer: The three pilot projects described in the FY 1996 budget submission address the organization and digital imaging of significant portions of the collections in order to make them available in electronic form. Digital information such as this is the primary source of material for electronic dissemination. The Smithsonian On-line initiative is the means by which that information can be disseminated to the public.

Question 38: How many current subscribers does America On-line have?

Answer: According to their estimates, America On-line surpassed two million subscribers in February of 1995.

Question 39: Who are the principal users of America On-line?

Answer: According to America On-line, American households are their primary users followed by businesses and some schools. They estimate that about five per cent of all pre-college schools across the country have an America On-line account.

Question 40: How much revenue is generated from this service and how have those revenues been used?

Answer: The revenue generated to date (\$30,615.66 since the June 28, 1993 launch) has been used to support the service (equipment and technical services).

Question 41: What museums and galleries are currently involved with America On-line?

Answer: As of March 1, 1995, the following units offer services over Smithsonian On-line: National Museum of American Art, National Museum of American History, three major divisions of the National Museum of Natural History, National Zoological Park, Office of Architectural History and Historic Preservation, Office of Elementary and Secondary Education, Office of Telecommunications, *Smithsonian* and *Smithsonian / Air & Space* magazines, Smithsonian Institution Traveling Exhibition Service, and the Visitor Information and Associates' Reception Center.

Question 42: Is there an effort to increase the data base to other museums and galleries?

Answer: Many other parts of the Institution are preparing to join Smithsonian On-line. Several are in the process of developing services for launch in 1995 including the Center for Museum Studies, Sackler Gallery/Freer Gallery of Art, National Portrait Gallery, Folkways Recordings, and The Smithsonian Associates. A number of others are planning later implementations.

Question 43: The Smithsonian has made significant entries into television and radio and other multimedia products have been created with Smithsonian participation. Can you give the committee a summary of these activities?

Answer: Over the years the Smithsonian has been engaged in a number of discrete ventures in electronic media, including television, video, radio, and more recently, multimedia and on-line services. Today, in the latter areas especially, many of the Institution's museums and research institutes, as well as several central units, are exploring projects in interactive media and establishing presences on-line.

The Smithsonian made its most significant entry into television with the PBS series, Smithsonian World, a co-production with WETA-TV. Thirty-eight programs aired in this series from 1984 to 1991. Some of the programs have had subsequent airings in syndication and on The Learning Channel, and the series is now being licensed internationally. The major funders were the McDonnell Douglas Corporation, followed by Southwestern Bell Corporation. In 1991 Southwestern Bell decided not to continue its support, and because of the timing of the decision, the Smithsonian and WETA concluded they could not mount a successful campaign to find a replacement.

The Institution is now represented by two series on cable television. The Smithsonian Presents Invention is produced and broadcast by The Discovery Channel and will soon enter its sixth season. Under another agreement, Hearst Entertainment is working with the Institution to produce a series called Smithsonian Expedition Specials, broadcast on the Arts and Entertainment Network. Previously Discovery produced and broadcast a 13-program series called Frontiers of Flight, in conjunction with the National Air and Space Museum. Another series, The Buried Mirror: Reflections on Spain and the New World, was produced in cooperation with the Smithsonian in 1992, to mark the Columbus Quincentenary. The series aired on The Discovery Channel and on various networks in Europe.

Additional single programs, produced primarily by the Smithsonian's Office of Telecommunications, have been broadcast over PBS and sold on videocassette. Titles include "The Movie Palaces," "Dream Window: Reflections on the Japanese Garden," "The Work of Peace," "Yorktown," "Our Biosphere: The Earth in Our Hands," and "In Open Air: A Portrait of the American Impressionists." Another series of six programs, called the Smithsonian Video Collection, was produced specifically for the home video market. Titles in that series included "The Flying Machines," "Dinosaurs," "Insects," "Gems and Minerals," "First Ladies," and "The National Zoo." Under an agreement with the Product Development and Licensing Division of the Business Management Office, an independent licensee produced the series Smithsonian's Great Battles of the Civil War, sold on videocassette and now airing on The Learning Channel. Working with Air and Space/Smithsonian magazine, Sunwest Media Productions produced a video series titled Dreams of Flight that also was marketed on videocassette.

A number of multimedia products have been created with Smithsonian participation, and many more are now being explored. The Smithsonian has an ongoing relationship with Philips Interactive Media of America for production and distribution of CD-i and, now, CD-ROM software. Thus far, this collaboration has yielded five discs, the latest being two programs on blues music, "The Uptown Blues" and "The Downhome Blues." Production is

just beginning on the next disc in the series "Information Age." Working closely with the National Zoo, Computer Curriculum Corporation developed two laserdisc/CD-ROM programs title "Amazonia" and "Virtual Biopark," primarily for school use. The National Museum of American History has initiated two CD-ROM projects: "Smithsonian's America," based on a major exhibition mounted by the Smithsonian at the American Festival Japan '94, and "Science in American Life," part of a curriculum kit based on a new permanent exhibition at the museum. Under an agreement initiated by the Product Development and Licensing Division of the Business Management Office, Perspective Visuals, Inc., produced a CD-ROM program titled "Dinosaur Museum," working with the National Museum of Natural History. The agreement with Perspective Visuals calls for additional titles in the future. Additionally, Discovery Channel Interactive is now creating a CD-ROM to be released this spring in conjunction with the upcoming "Ocean Planet" exhibition at the Museum of Natural History. Smithsonian units have also been involved in production of a number of CD-ROM titles intended primarily as reference tools. A prime example is the "Permanent Collection of Notable Americans," a guide to the collections of the National Portrait Gallery.

A number of Smithsonian units have developed web sites on the Internet. At present these are maintained completely by the individual units. The Institution's new Senior Information Officer has mounted a major effort to establish a Smithsonian Home Page on the web, providing a large volume of information on all the Smithsonian museums, research and exhibition activities, publications and products. The Home Page provides a central "gateway" to the Smithsonian on the Internet, allowing the user to access all the web sites located within the Institution.

Various Smithsonian museums and other units have established presences on commercial on-line services, most prominently on America On-line. America On-line gives a high profile to Smithsonian On-line, and a number of units have begun to make sophisticated use of this venue. The National Museum of American Art has been especially proactive, placing a broad sampling of its collections, exhibitions, and publications on-line and drawing strong participation in interactive dialogues between users and museum staff. There is some Smithsonian involvement on a much lower level on CompuServe, Prodigy, and Genie, primarily through banks of photographic images from the Smithsonian.

In recent years the Institution has also greatly expanded its presence on radio. Radio Smithsonian, the radio arm of the Office of Telecommunications has two ongoing series on public radio, Folk Masters and Jazz Smithsonian. A previous series, Spirits of the Present: The Legacy from Native America was heard on more stations than any other documentary series in the history of public radio. Now in production is a 13-part series, Black Radio: The History of African Americans on Radio, set to premiere in the fall of 1995. Bernice Reagan, curator emeritus at the National Museum of American History, collaborated with National Public Radio to produce the very successful series, Wade in the Water, focusing on African American sacred music. Future plans call for additional science and music projects and exploration of non-broadcast and on-line audio services.

Question 44: How much revenue is generated from these activities?

Answer: For fiscal year 1994, the net revenues from sales and licensing of video programs, films, interactive, and computer programs totaled approximately \$296,000.

Question 45: How will these revenues be used?

Answer: The revenues are used to augment funding for the Institution's educational programs, research, exhibitions, and public programs, as well as to fund the ongoing management, development, production, marketing, and distribution of media projects.

Question 46: Are other ventures being currently considered?

Answer: As discussed in response to Question number 49, the Institution places great importance on digitization of its collections, as a critical means of expanding public access to the Smithsonian's resources. While the digitization itself will not yield revenue, and indeed requires funding that is not currently at hand, the digitized images can themselves become resources from which new products can be developed, particularly in the multimedia realm. These possibilities are now being explored in a preliminary way with major companies in the field.

In conjunction with the Smithsonian's 150th anniversary in 1996, the Institution is seeking a broadcast partner to present major programs to a national audience. Under current plans, these would include: two prime-time specials, one airing in January 1996, and the other at the time of the official anniversary in August; a series of "Smithsonian Minutes" to be broadcast throughout the year; and possible feature segments to appear on newsmagazine programs of the network partner.

The Institution is examining various possible strategies for establishing an ongoing, comprehensive electronic presence for the Smithsonian via some combination of cable, satellite, video dialtone, and broadcast television. Several members of the Smithsonian staff have proposed a broad conceptual framework for such a venture.

Several new television projects are now under active consideration. A contract was recently signed with Lancit Media, Inc., a major producer of children's programming, to create plans for a Smithsonian TV series for 8- to 12-year-olds. Limited series now in development are A River of Song, a four-hour series celebrating the rich variety of music found along the Mississippi River, and If This House Could Talk, an original look at aspects of our history through famous and distinctive American homes.

The Office of Telecommunications, the Smithsonian Institution Press, and Product Development and Licensing, as well as several museums, are actively exploring major relationships for creation of CD-ROM and other interactive titles. The three central units named have recently begun to coordinate their activities in this area. In this way the units aim to maximize the effectiveness of their efforts and achieve the greatest impact in multimedia for the Smithsonian.

In future years, the Office of Telecommunications, through its Radio Smithsonian arm, intends to further expand the Institution's presence on radio, both public and commercial. Current plans call for additional science and music projects and exploration of non-broadcast and on-line audio services.

Question 47: How much revenue was generated this past year from the Smithsonian magazine, gift stores, CD's and other similar ventures?

Answer: In FY 1994 the business activities contributed a total of \$15.1 million to the Unrestricted Trust budget of the Institution. These activities include Smithsonian Magazine and Air and Space Magazine, Smithsonian Press, Mail Order, Museum Shops, Concessions, Product Development and Licensing, and Media Activities.

Question 48: Was this an increase or decrease over FY 94?

Answer: Revenues in FY 1994 reflect a decrease of \$1.3 million from FY 1993. Revenues from the same activities totalled \$16.4 million in FY 1993.

#### New Public Access Program

Question 49: You admit in your justification that public access to Smithsonian collections and information is poor. The budget requests additional funds for three pilot projects to accelerate modernization of the information technology infrastructure that will provide greater access to the general public who cannot always travel to Washington D.C. If funded, how extensive will this system be when fully implemented?

Answer: The three pilot projects for which funding has been requested are critical to the Institution's efforts to provide more extensive electronic access to the collection -- particularly on-line access. These projects, one for each of the art, history, and science communities, provide for the development of the electronic collection's structure and organization as well as for the development of the necessary methodologies to manage the logistics of digitally imaging one hundred and forty million objects. These systems will be "functionally" extensive but rather limited in the actual amount of material digitized. As was indicated in the Secretary's testimony, digitization of the collection will require considerable resources and other funding mechanisms must be (and are being) investigated and pursued. The strategy is to develop a large, well-organized digital repository of source images and text. This can be efficiently accessed and creatively used for multiple purposes and delivered over different types of electronic media ("re-purposing" in the industry's term).

Question 50: Who would have access to the information?

Answer: Broad public access will be provided through delivery mechanisms currently in place, or in development, by the public and private sector.

Question 51: Specifically, how will schools and private citizens access the information?

Answer: Perhaps it is important to underscore that no on-line access is free. Internet is a powerful "network of networks" but requires some basic "access service provider" to connect the user. Research institutions and higher education entities use large access providers through high speed links costing two to three thousand dollars per month. The general public, libraries, and schools typically use lower speed services (such as America On-line, Compuserve, Prodigy, and a number of newspaper publishers) to individual locations at twenty to thirty dollars per month. There is a high level of activity in the education and library communities to establish comprehensive networks (through commercially available means and otherwise) with capability to provide Internet and a number of other distance education technologies. The Institution is approaching citizen access on a very broad front endeavoring to provide the most cost effective approach for a particular audience or purpose over the long term.

Question 52: What is the current plan for phased funding and how long will it take to be fully operational?

Answer: Phasing is different for different museums. In the case of the art museums, digital imaging of their collections, which are relatively small and consist mostly of two-dimensional paintings, prints, and drawings, is underway at a rapid pace, and projects to create high quality, electronic exhibits are being developed. Museums with larger, more complex collections, such as those of Natural History and American History, have required considerably more effort to identify priorities for imaging and logistics for doing so on a large scale, processes which are likely to extend over the next five to seven years.

Question 53: Will there be a fee charged to the user?

Answer: The Smithsonian currently does not anticipate charging direct fees to users of Smithsonian electronic services. As was indicated in the answer to Question number 51, there are costs associated with on-line access.

Question 54: Can you briefly describe your pilot projects?

Answer: The three pilot projects, one for each of the art, history, and science communities, provide for the development of the electronic collection's structure and organization as well as for the development of the necessary methodologies to manage the logistics of digitally imaging the collections. See the response to Question number 49 for additional information.

Question 55: Since not all Americans can or will travel to Washington, D.C. , and their tax dollars pay for a large part of the Smithsonian budget, would you say that implementing this information highway system should be a higher priority than some of the new, major construction projects?

Answer: It is obvious that the Institution will have to make hard choices and set priorities for the use of its resources. Modern technology allows the Institution to serve the American people in ways we were never able to before. Bringing the Smithsonian to America is an exciting prospect. This does not diminish, however, our responsibility to maintain historic facilities in Washington D.C. for the millions of visitors that arrive each year or to care for the national collections.

Constructing the Smithsonian's lane of the information highway will be expensive, and the Secretary is already engaged in serious exploration of public/private partnerships to make it happen. Constructing new facilities and maintaining current facilities will be equally expensive. Where possible we will endeavor to generate private funding for those facilities. The National Museum of the American Indian and the Air and Space extension at Dulles both require significant private support.

The Secretary has initiated a strategic planning process, scheduled to be completed by the end of this fiscal year, that will serve to focus the Institution on its priorities for the future. As part of that planning process, issues such as the appropriate level of resources for information technology versus the appropriate level for the construction and maintenance of facilities will be addressed.

Question 56: As federal budgets decline, priority setting becomes increasingly important. Has the Smithsonian seriously considered delaying major new building construction until: your collections can be downsized; greater access to collections and information is available to all Americans; more private cost-sharing can be attained for major construction initiatives?

Answer: The subject of collections acquisition, care and deaccession will be a major component of the Secretary's strategic planning process. The national collections are at the heart of the Institution. They are the basis for research, exhibitions, public and educational programs, and indeed, the reason to be on the information highway. How they are conserved and maintained is integral to the Smithsonian's continued operations. The issue of downsizing the collections through such mechanisms as long-term loans will be carefully considered in the strategic plan. The results of this process will inform the discussions of construction requirements.

Planned construction of facilities such as the Air and Space extension which is necessary to conserve the collections is wholly dependent on the Institution's ability to raise funding in the private sector to support it. Likewise, the construction of the National Museum of the American Indian requires that the Institution raise one third of the construction costs. The Institution is extremely conscious of the need to generate sources of funds other than those received from the Federal government.

**Salaries and Expenses Account**

**Question 57:** The FY 1996 request for S&E is \$329.8 million, \$14.3 million above the FY 1995 base. Mandatory increases for pay, utilities, rent etc. accounts for \$4.8 million of the increase. Can you explain the balance? What programs or projects are associated with the increases?

**Answer:** The increases above those for pay, utilities and rent include \$2.6 million for operational support of new facilities which have been funded through the Institution's capital accounts (\$1.1 million), as well as for administration of the Repair and Restoration program (\$1.5 million). An additional \$4.3 million is requested to continue development of the National Museum of the American Indian; \$0.7 million to complete development of the Submillimeter Telescope Array at the Smithsonian Astrophysical Observatory; and, \$2.1 million to increase public access to the Institution's collections through expansion of the Institution's automated collections management programs.

**Question 58:** How many federal and trust fund positions have been eliminated as a result of the federal buyout program?

**Answer:** As a result of the buyout program, the Institution eliminated 206 Federal positions and 23 trust fund positions.

**Question 59:** Do you intend on offering a last round of voluntary buy-outs prior to March 31 when the program ends?

**Answer:** The Institution does not intend to offer a last round of buy-outs. The Institution has offered early outs in March 1995. Five employees applied and were accepted.

**Question 60:** What is the total number of reductions in FTE's required to meet the President's five year downsizing plan?

**Answer:** The total number of reductions from FY 1993 to FY 1999 associated with the President's downsizing plan amounts to 571 FTE's - 12% of the Institution's federal workforce.

**Question 61:** How do you intend to achieve these reductions -- attrition, rifs?

**Answer:** The reductions through FY 1995 have been achieved through the Institution's FY 1993/FY 1994 restructuring and the recent buyout program. A portion of the FY 1996 reductions (18) has also been achieved through the FY 1995 buyout program. The remaining reductions through FY 1999 will be achieved through a combination of further restructuring, reductions in force, and attrition.

Question 62: Your budget states that there are mandatory increases for facilities operations. What is the total budget and FTE increase associated with new and expanded facilities projects funded through the capital account?

Answer: The Institution has requested a total budget increase of \$1.05 million and 11 positions associated with new or expanded facilities. This increase is broken down as follows:

	<u>\$000</u>	<u>FTE</u>
Smithsonian Tropical Research Institute	128	0
National Zoological Park (Amazonia)	390	0
National Museum of Natural History (East Court)	283	9
Cooper-Hewitt Museum	249	2
Total	1,050	11

Question 63: Your budget lists the following key projects which are either underway or completed: Tropical Research Institute in Panama, the National Zoo, Cooper Hewitt in New York, and the Natural History Museum. Which of these projects would you consider essential to the mission of the Smithsonian, critical as far as health and safety issues and ideal to have under the best of financial situations?

Answer: All of the projects are consistent with the mission of the Smithsonian and essential to its execution. Their presence in the budget request reflects the Institution's internal process of prioritizing its needs and seeking funding for those most critical. At the National Zoo, the Amazonia exhibit, widely hailed for its inventiveness and rich learning possibilities, remains only partially utilized because funds have not been available to fully staff it with qualified personnel. At the Tropical Research Institute, funding for the maintenance of air conditioning and fire and sprinkler systems is crucial for reasons of health and safety and for the achievement of program objectives.

Question 64: Can any of the ongoing, non-essential projects be delayed? I am particularly interested in ongoing projects at the National Zoo? (Grasslands, Aquatic Trail etc.)

Answer: Delaying these projects could have a wide range of consequences. The continuing process of exhibit upgrading at the Zoo is a necessity for a number of reasons. The scrutiny of exhibits by animal rights groups, which are increasingly active, exert public pressure on zoos throughout the country. Delaying the process of enhancing animal welfare and exhibit quality could expose the Institution to public protests and media attention.

Congressional construction support has enabled the National Zoo to eliminate or upgrade many of the outdated exhibits and greatly enhance the lives of the animals. The construction of Living in Water, Phase One of the Aquatic Trail will totally refurbish the old

wetlands exhibit as a modern educational experience highlighting issues such as the clean-up and restoration of our national freshwater areas, particularly rivers. In the process it will greatly increase the security of a presently underutilized area of ponds close to Rock Creek and a major visitor access point. The Grasslands Exhibit will modernize an obsolete exhibit area close to two major visitor entrances and greatly enhance the visitors access and safety. It will particularly expedite the entrance of burgeoning school groups. The educational value of these exhibits will be dramatically increased. Obsolete animal holding facilities, giving rise to welfare concerns, will be eliminated.

#### National Museum of the American Indian

**Question 65:** Thirty new positions and \$4.3 million is requested for the National Museum of the American Indian. I assume both the FTE's and the funds relate to both the Customs House in New York and the planned new construction of the collections center in Suitland, Maryland. What will be the total annual operating costs and FTE requirements for the Custom House, Suitland facility and the Mall museum, if built?

**Answer:** The following chart outlines the National Museum for the American Indian's anticipated FTE and operating requirements for FY 1995 through FY 2001.

#### National Museum of the American Indian Operating Costs

Facility	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001	
	FTE	\$000												
Mall	--	--	--	--	--	--	--	--	131	--	3,833	159	19,392	
Custom House	61	6,270	67	6,816	78	9,431	78	9,834	78	8,989	78	9,046	78	9,057
Suitland	--	--	--	137	10	3,990	18	6,124	42	7,977	57	9,386	67	10,276
Bronx	43	3,775	46	4,380	54	5,369	54	5,369	31	3,704	19	2,613	9	2,053
DC	48	5,292	56	6,048	77	7,079	81	7,441	95	8,370	105	9,483	--	--

Note: Operating costs include salaries/benefits for NMAI staff, direct (NMAI) and indirect (other SI offices) support costs. SI offices providing NMAI support include: Office of Protection Services, Office of Plant Services, (including Utilities), and SI Libraries at the Suitland facility.

Move costs and one-time start-up costs such as furnishings, computer equipment, and conservation-related equipment, are as follows:

#### National Museum of the American Indian Move and One-Time Start-up Costs

	FY 1996 \$000	FY 1997 \$000	FY 1998 \$000	FY 1999 \$000	FY 2000 \$000	IPY 2001 \$000
One Time	1,826	5,496	1,837	7,200	12,500	3,500
Move	0	1,065	2,169	2,129	2,129	2,129

Question 66: What will be the total federal commitment for planning, design and construction? And the private financial commitment?

Answer: The total federal commitment for planning, design and construction for the Suitland facility will be \$50 million. At present, no private contributions are planned for these expenses. For the Mall facility, the federal contribution is expected to be \$73.3 million, or two-thirds the total cost. The Institution is required by the legislation to raise one third of the cost of construction for the Mall museum. To date we have raised over \$27 million of the \$36.7 million we are required to raise.

Question 67: Has there been a financial commitment from Native Americans for any of these facilities?

Answer: Yes. Native Americans have contributed to the National Museum of the American Indian construction and endowment funds. Most notable is the \$10 million contribution received from the Mashantucket Pequot Tribal Nation.

#### Scientific New Equipment

Question 68: An additional \$650,000 and 6 positions would support continued development of the submillimeter telescope array project located in Hilo, Hawaii.

When will this project be completed and what will be the total federal construction, acquisition and operating costs?

Answer: The Institution expects the submillimeter telescope array to be completed by FY 1998. Total Federal construction and acquisition costs are projected to be slightly less than \$50 million. Operating costs are projected to be \$5 million per year. These costs, with allowance for actual inflation, are within the budget developed when the project was proposed eleven years ago. With approval for the requested funding in FY 1996, all personnel will be in place and about 60% of the operating costs will already be included in the SAO base when operations begin.

Question 69: What is the mission of the project and equipment?

Answer: The last frontier for ground-based astronomy is observing the skies with telescopes sensitive to submillimeter waves, invisible light with wavelengths between those of infrared and radio waves. The submillimeter telescope array will play a major role in understanding the enigmatic processes by which stars form, including our sun, and the mechanisms that generate prodigious amounts of energy in quasars and in the centers of active galaxies. The array will also be used to study objects closer to home, providing new information on the surfaces and atmospheres of planets and other objects in our solar system including comets, which from time to time impact the Earth, sometimes with devastating consequences. Because the array will open a new window on the universe, it will also likely lead to wholly unanticipated discoveries.

Question 70: Can you give the committee examples of the types of practical applications that might result from research using this new equipment?

Answer: Development of the array requires the fabrication of extremely sensitive receivers that may have very significant applications in opening up channels for communications on Earth, outside the ever-more-crowded range of frequencies currently available for such communications. Results from the array may also play a role in the development of future energy sources. In the twenty-first century fossil fuel reserves will be increasingly depleted and will have to be replaced by other, as yet undeveloped, energy sources. One such source will likely be the extraction of energy from fusion, the source of energy that powers the sun by converting hydrogen atoms into helium atoms. The astronomical universe provides a much larger laboratory than any we could ever hope to construct on the earth to study how energy from fusion can be turned into useful forms. The array will be used to study astrophysical phenomena where electrically charged gases play an essential role. Determining the role of such plasmas in star formation and in the energy production in quasars and active galaxies may provide important insights into processes needed to extract energy on Earth from fusion.

Question 71: Are there other facilities with this capacity?

Answer: No. The submillimeter telescope array will be unique in the world by virtue of the unprecedented combination of its ability to observe wavelengths between infrared and radio waves and to resolve fine spatial details.

Question 72: Your request included \$36.3 million in no-year funds to remain available until expended. This involves support for the upgrade of major scientific equipment, new collections acquisition, and the new museum support center in Suitland to name a few. How are priority decisions made to upgrade or replace equipment?

Answer: Each unit of the Smithsonian has an equipment replacement plan based on rates of obsolescence of both research and administrative equipment. Replacement is based upon both equipment condition and enhanced capability of new generations of equipment.

Question 73: What has been spent to date on the support center, how much will be required to complete the project, and when will the collections move be completed?

Answer: The Museum Support Center (MSC) was constructed from 1981-1983 at a cost of \$29.5 million. Until the design is completed for the High Bay and the completion of the Pod 3 wet collection storage systems, the total costs of the MSC storage equipment cannot be firmly estimated. The present assumption is that the current funding level of \$2.184 million to procure and install the MSC storage equipment will be needed through at least FY 1997. The Institution anticipates that the current funding level of \$1.3 million for the move will need to be maintained through at least FY 2001 to complete the move to the MSC.

Question 74: What process does the Institution use to purchase new objects for the collections? Are the decisions made by the Director of a museum, gallery or is the Secretary or the Board of Regents involved?

Answer: Once the Secretary has approved a museum's collecting policy, major acquisition decisions are made by its advisory board, with the director given discretion up to a certain dollar amount.

#### Latino Initiative

Question 75: The budget again requests funding of \$998,000 for the Latino Initiative. Your budget justifications mentions pilot projects and the desire to attract matching and eventually, sustaining funding from private sources. Can you explain the rationale behind initiating this program?

Answer: This program seeks to stimulate a series of coordinated activities focusing on Latinos throughout the Smithsonian. Taken as a whole, such activities will address the urgent need for the inclusion of Latino art, culture, and history in the Institution's exhibitions and public programs. The activities will energize sectors of the Smithsonian that are particularly sensitive to the opportunities inherent in Latino-related programs, thereby creating a "multiplier effect" that will: a) re-orient unit priorities, and b) open the possibility of significant outside funding.

Latinos constitute approximately 10 percent of the U.S. population. They are the single largest potential new national audience for the Smithsonian, but their rate of visitation to the museums and their patronage of SI services and products is comparatively very low. We are convinced that the national Latino community can be brought to the Smithsonian not only as museum visitors and clients, but indeed as contributors and benefactors. The Latino Initiatives pool gives us the opportunity to "jump start" several key projects with remarkable potential to become self-sustaining.

Question 76: By the above statement, one could easily conclude that you do not envision this program remaining a special line item indefinitely. When would you project the program being self-sustaining and no longer requiring federal appropriations?

Answer: The Institution does not envision that this program will remain a special line item indefinitely and expects that it will become self-sufficient in three to five years.

Question 77: Can you describe some of your pilot projects?

Answer: The National Museum of American Art seeks to present a major exhibition of Latino art by 1998. Such an exhibition would not be feasible now given the still relatively meager inventory of first rate works in the field held at the NMAA. As a result the Latino pool, the Museum is undertaking a sharply targeted, systematic program of acquisitions that

will make the exhibition possible in three years' time. Meanwhile, the Museum is developing an educational package for schools (none now exists) that will attract attention from educators nationwide. These projects hold excellent potential to attract major corporate funding. However, a level of credibility needs to be attained before any funding effort succeeds. The National Museum of American History and the Hirshhorn Museum and Sculpture Gardens are in essentially similar circumstances.

The Cooper-Hewitt Museum will use funds from the Latino Initiative to include a Latino designer in its "Designers' Choice" series of exhibits. This, and the fact that the Museum has initiated a "Latino Design Archives," will make the Museum an attractive prospect for Latino-oriented outreach and fundraising in a metropolitan area containing one of the largest Latino populations in the nation.

This summer, the Smithsonian's Center for Museum Studies will host 15 Latino graduate students at the Qualitative Methods Seminar for a "total immersion" exposure to the Smithsonian world. Many of those students are contemplating careers in the museum and kindred fields. They exert an immediate and vitalizing effect on museum staff, bringing to the forefront critical perspectives and "can do" and "why not?" attitudes. This program is possible in the summer of 1995 thanks to the Latino pool.

**Question 78: Has there been any private contributions to date?**

**Answer:** Yes, the Qualitative Methods Seminar to be held in the summer of 1995 has attracted matching funds from the Inter-University Program for Latino Research, a consortium of nine universities with Latino Studies programs.

**Question 79: What source of funding do you envision supporting this program prospectively?**

**Answer:** We expect that these programs will eventually become established within the diverse units' portfolio of normal offerings. The Latino Initiatives pool, moreover, offers a significant opportunity to generate corporate and philanthropic support, especially as part of the Smithsonian's 150th Anniversary effort. Each museum receiving funding from the Latino Initiatives pool has been asked to submit a matching plan.

**Question 80: What would be the impact of eliminating federal funding for this initiative? Could it be funded with unrestricted trust funds?**

**Answer:** The elimination of federal funding at this stage will set back Latino-related initiatives by several years. To the extent possible, unrestricted trust funds have been allocated to this effect through such mechanisms as the Special Exhibition and the Educational Outreach funds. The loss of the request for FY 1996 would be unfortunate. This would be especially so at a time when the Smithsonian is beginning to make progress, however modest, and when the prospect of successful fundraising activities vis-a-vis Latino audiences is more promising than ever.

**Astrophysical Observatory Salaries & Expenses**

Question 81: The budget for the Astrophysical Observatory remains constant; however, there is a slight increase for scientific equipment.

Can you give the Committee several examples of significant advance or discoveries made at the facility?

Answer: Instruments originally developed by SAO scientists for astrophysical measurements have been used by them to study the abundance of bromine, a key destroyer of ozone in the stratosphere. SAO scientists also have made significant advances in studies of interpreting astrophysical phenomena. SAO scientists have discovered that the huge aggregates of stars called galaxies are not scattered randomly throughout space, as previously believed, but instead are confined to the surfaces of giant "bubbles" and to huge "great walls" that extend across much of the observed universe. These structures have baffled theorists; explaining these features may turn out to have unexpected consequences for our understanding of nature. Most recently, SAO scientists and their colleagues discovered a remarkable rotating disk of matter in a distant galaxy. The only convincing explanation for this phenomenon requires the existence at the center of the disk of a supermassive black hole, an object so dense that not even light can escape from its grip; it likely contains enough matter to make forty million stars the size of the sun. Continued study of this spectacular object may yield many surprises and an improved understanding of how galaxies, including our own Milky Way, have formed.

Question 82: What are the practical applications of these advancements?

Answer: A technique developed by SAO scientists studying fundamental atomic properties of matter shows great promise for aiding the early detection of multiple-sclerosis lesions and breast cancer. SAO scientists are collaborating with physicians at Boston's Brigham and Women's Hospital to develop the full potential of this new technology. Other SAO scientists have applied unique instrumentation developed for astrophysical purposes to studying the chemistry of the Earth's upper atmosphere. Their measurements are vital for predicting the future severity of ozone depletion. In many cases, however, important practical applications of advancements in basic research made at SAO may not become apparent for many years.

Question 83: Does this program have an educational component?

Answer: SAO has a very successful continuing program of developing materials and curricula for precollege science courses and conducting workshops and summer institutes to help precollege teachers to enhance their competency in science. Students lack of facility in science and mathematics has been a major national concern for more than a decade. This national problem led SAO to develop the first astronomy high-school text to be written in this century. The STAR (Science Teaching through its Astronomical Roots) project, consisting of this text and integrated hands-on activities, builds on students' interest in astronomy to teach science and mathematics. SAO also developed an award-winning video, *A Private*

*Universe*, that highlights problems in teaching science. This video has become the basis for a series of television programs on science education being prepared by SAO for broadcast on PBS this fall.

Question 84: If so, for which grade levels is the program designed?

Answer: SAO's programs cover the entire range of precollege schooling from kindergarten to senior high school. SAO is creating discovery-based elementary-school science curricula using astronomy as its unifying theme, producing videos designed to support K-8 teachers in teaching science, and developing a set of junior high-school Earth science activities in which students learn to interpret satellite imagery. SAO also regularly conducts summer institutes of precollege teachers to enhance their understanding of science and to provide them with materials they can use in their classrooms.

Question 85: If the new information system is completed, will this information be accessible to all Americans?

Answer: All materials developed by SAO are accessible to all Americans.

#### Tropical Research Institute (Panama) Salaries & Expenses

Question 86: There is a \$128,000 increase proposed in FY 1996. This is directly tied to the completion of major construction and renovation projects which added 95,000 square feet of space to the facilities in Panama. What was the total cost of the project and how many FTEs are involved?

Answer: The proposed increase for FY 1996 is for operational costs associated with various construction and renovation projects carried out under a facilities Master Plan approved by the Smithsonian Regents and authorized by Congress in 1986. The total Federal cost of the five construction and renovation projects at the Tropical Research Institute which involve the 95,000 sq. ft. has been \$5.1 million in Federal funds. The Institution is not requesting FTEs for FY 1996 because the proposed increase will be used to secure the required contract services for the maintenance of vital systems, such as air conditioning, security, mechanical and elevator services.

Question 87: What are the annual operational costs?

Answer: The proposed increase of \$128,000 will augment \$1,226,000 and 39 FTEs which is the existing building maintenance base for all STRI facilities.

Question 88: Your budget states that the facility houses 33 resident scientist and over 250 visiting researchers from other countries. Was there any cost sharing involved with the construction or operation of the facilities from either the private sector or other countries?

Answer: Between 1986 and 1989 we received a \$4 million contribution from a private donor to construct our major research laboratory, the Tupper Research and conference Center. Additional cost sharing from the private sector for the construction and renovation of projects addressed in Question number 86 has amounted to about \$1.4 million. These include funding to renovate facilities that house our paleoecology and marine biology programs, to renovate and expand our Library, and the purchase of a crane for canopy research through funding from Finland, Germany and Norway via the United Nations Environmental Program. Our research operations have been supported during this same period by \$5,370,000 in private grants and contracts. Additionally, our host country (Panama) has provided land at no cost and the waiver of customs duties for all Institute importations.

Question 89: Is there any charge associated with those 250 visiting researchers?

Answer: Visiting researchers are charged fees for the use of STRI facilities. For example, from \$150,000 to \$200,000 in fees are collected annually for the use of the Barro Colorado field station which are deposited in the Barro Colorado Trust Fund (20 U.S.C. Sec. 79 et seq.) and are used to support the operation and protection of this facility. Most of the visitors to STRI, however, are graduate students from universities in the United States whose expenses are subsidized. Without basic support from STRI, these unique facilities would not be available for the research community, including the future generations of American scientists.

Question 90: Are there any other private or public facilities either in the U.S. or abroad conducting similar research?

Answer: No other U.S. or international institution conducts research in the full range of tropical biology, including programs on tropical rainforests, long-term marine and terrestrial environmental science monitoring, marine ecology (especially coral reefs), molecular evolution and past global change. The only other U.S. sponsored activity in the tropics is the Organization of Tropical Studies (OTS), based in Costa Rica, and funded by a consortium of about 50 U.S. universities and Costa Rican organizations. The OTS concentrates mainly on educational activities, lacks a marine program, and does not maintain a permanent staff of scientists. The Smithsonian Tropical Research Institute maintains the only major U.S. research facilities in the mainland New World tropics. This unique geographic location enables our researchers to access protected forest areas, and compare and contrast the different marine systems of the tropical Atlantic and Pacific coasts.

Question 91: What is the primary mission of the Tropical Research Institute in Panama?

Answer: The primary mission of the Tropical Research Institute in Panama is to support research, education and conservation of tropical ecosystems conducted by its resident staff, fellows and visiting scientists from the U.S. and around the world. In 1994, 362 visitors came from 41 nations, representing 110 institutions. The Institute is also

custodian of the Barro Colorado Nature Monument as designated in the Panama Canal Treaties of 1977 under the Convention of Nature Protection and Wildlife Preservation in the Western Hemisphere to which both the U.S. and Panama are signatories.

Question 92: What major contributions have been made by STRI researchers?

Answer: STRI publishes 200-300 scientific articles per year. Major contributions made by STRI researchers have included the following:

1. Studies on African Bees.  
STRI has pioneered studies of the migration of the Africanized honey bees and their impact upon the ecology of native plants and animals. STRI also helped to develop methods of control and public health management of swarms.
2. Studies on the Evolution of Virulence.  
Research on the relationship of figs, their wasp pollinators, and their nematode parasites has revolutionized the approach to controlling virulent diseases, including human epidemics, such as AIDS and other easily transmitted viruses.
3. Studies on Canopy Biology.  
STRI installed the first construction crane for safe access to the previously inaccessible tropical forest canopy. This is the area where most terrestrial photosynthesis and gas exchange between the atmosphere and geosphere occurs. On a large scale these processes strongly affect global climate, and the canopy is also the area of greatest biological diversity, mostly undescribed.
4. CO<sub>2</sub> Enhancement and Plant Growth.  
Large scale experiments in the open forest of Barro Colorado Island are testing the performance of forest trees under elevated CO<sub>2</sub> conditions, one of the predicated future effects of global climatic change. This is the only location where such studies are being conducted, *in situ*, on tropical forest species.
6. The Dynamics of Tropical Forests.  
STRI's creation of the Center for Tropical Forest Science has established a circumtropical network of forest plots (500 m x 1000 m) in which all the trees over 1 cm. diameter are mapped, identified and measured every five years. This study provides comparisons between diversity of forests in Africa, Asia and the New World, and information on rates of growth, as well as identifying species suitable for plantation forestry, and estimation of sustainable extraction rates. These techniques also provide information on how forests respond to temperature and humidity changes such as those brought about by periodic El Niño droughts.
7. Studies of the Molecular Clock.  
Studies in marine species isolated on either side of the Isthmus of Panama, known to have formed 3 million years ago, allows testing of the molecular clock hypothesis that asserts that genetic mutational changes accumulate in all organisms at a constant rate.

8. Monitoring of Global Climatic Change.  
STRI's long-term monitoring of the fluctuations in physical environmental parameters, combined with censuses of the most important marine and terrestrial tropical species, will provide early and sensitive indicators of global changes in climate.
9. Caribbean Geological Studies.  
Detailed studies of recent geological history have reconstructed the formation of the Isthmus of Panama and documented a series of evolutionary and ecological effects on a global scale. These include the triggering of glaciation in the northern hemisphere, seasonal upwelling in the Pacific, creating major sources of marine fisheries, El Niño disturbances, and the interchange of the previously isolated faunas of North and South America. These studies provide basic data for global climatic models that predict future climatic changes.
10. Environmental Impact of Sea Level Canal in Panama.  
STRI has contributed to predicting and understanding the environmental impacts of various alternatives to the Panama Canal.

Question 93: How have these advances helped the average American citizen?

Answer: In addition to the scientific contributions, some of which are outlined in answer to Question number 92, STRI studies are contributing to the general knowledge of the biology of our planet. As part of our educational contributions, STRI hosts a number of film crews which use our facilities and expertise, making possible educational films often shown on television. There are currently eight different film crews who use STRI facilities, including crews from the National Geographic Society, National Public Radio, British Broadcasting Corporations, Oxford Scientific Films, and the Tokyo Broadcasting System.

STRI also serves as the base of operations for a number of important applied research projects of direct significance to the American public. For example, from 1986-1992 STRI conducted a major study, funded by the Mineral Management Service of the Department of Interior, and the Marine Spill Response Corporation on the Effects of a major oil spill in the tropics. The information developed on what to do in case of a major oil spill in the tropics is of critical importance to some coastal regions of the U.S., such as the coral reefs, mangroves and seagrass beds of Florida, upon which the tourism industry depends heavily. Another project presently hosted by STRI is one funded by the Department of Agriculture involving the eradication of the screwworm, a major scourge of the cattle industry. The results of this program could save millions of dollars to the cattle and meat industries of the United States. We are also currently exploring a joint research program to be carried out with a pharmaceutical company which involves a global survey of fungal extracts that have proven to be the source of a number of major antibiotic drugs. Finally, STRI scientists are cooperating with the National Institute of Health to establish a research site in Cameroons where investigation of specific plants likely to yield pharmaceutically valuable drugs in the treatment of AIDS has been targeted. All these programs would not be possible without the research history and permanent operating base provided by STRI.

**National Zoological Park Salaries & Expenses**

Question 94: The operational budget for the National Zoo includes a \$390,000 increase to support the new Amazonia and Living in Water exhibitions. Construction has already commenced for both projects, are additional construction dollars needed to complete either exhibit?

Answer: The Institution will ask for an additional \$2.1 million (probably in FY 1997) to complete the Aquatic Trail Living in Water exhibit.

Question 95: If they are complete, what was the total federal and non-appropriated investment?

Answer: They are not complete. To date the Zoo has received \$15.2 million in Federal appropriations for the aquatic and forest part of Amazonia (\$7.7 million), Amazonia Gallery (\$4.6 million), and Aquatic Trail (\$2.9 million). With the scheduled request of \$2.1 million in FY 1997, the total is \$17.3 million for the three exhibits. There are no Trust funds planned for this construction.

Question 96: What is the projected total operational costs for each?

Answer: The Zoo's request for FY 1996 includes a total of \$390,000 to support the exhibits. This included both staffing needs and other support related costs. To allow the exhibits to be fully functional, as envisioned, the requirement would total nine keepers and support staff and approximately \$540,000.

**National Museum of Natural History Salaries & Expenses**

Question 97: The operations budget for the National Museum of Natural History includes a base increase of \$986,000 and 12 positions. Nine of those positions and \$283,000 are directly related to the East Court Facility program, three positions and the remaining \$665,000 are associated with the Collections and Research Information System -- the public access and outreach initiative.

Does this complete the federal funding requirement for the Natural History East Court project?

Answer: The request for a base increase of \$283,000 and 9 positions for the NMNH East Court operations budget does not complete the federal funding requirement for the operations portion of the Natural History East Court project. In FY 1997 the Institution anticipates requesting funding for the following operational costs:

- National Museum of Natural History: 3 additional positions, salaries and funding to support the facilities maintenance requirement and additional one-time funding for a telephone system and other electronic communications costs

- Office of Protective Services: 5 security officers and support costs to provide sufficient security for the buildings
- Office of Plant Services: utilities costs and 3 maintenance mechanics to run the mechanical equipment and repair the building

Question 98: Regarding the new public access initiative, will this project require phasing over several years? What is the total cost?

Answer: The Collections and Research Information System public access initiative will be phased over multiple years. Current projections are that full implementation will take five years and will require an estimated \$2 million increase in base funding. Definitive cost estimates and scheduling for the full program cannot be established until requirements are fully defined and designs completed for each development phase.

Question 99: Can the information be accessed at each phase, or will the public have to wait until the project is completed?

Answer: The phased build up system capabilities will enable the public to have increased levels of access at each phase of development. NMNH recently successfully implemented a small prototype public access component. Based on usage statistics, we have found that there is strong public demand for electronic access to the National Collections.

#### Museum Support Center Salaries & Expenses

Question 100: The budget justification for the Museum Support Center move describes the concept of the "Initial Move" with the objective of phasing the transfer of current objects from the museum to the support center over a period of several years. These items , because of their less than ideal current storage, needed to be cleaned of asbestos contamination, inspected for pests and other contaminates, cleaned, computer labeled, and specially packed before transferring.

You state in your justification that during this process the collections of the department have continued to grow and as a result, the distinction between those objects in poor storage and the new objects targeted for future "growth move" have been blurred. As a result, you explain, the Smithsonian is actively conducting "growth moves" for new collections prior to completing the "initial move" for collections in jeopardy for which the appropriated funds have been provided.

Given the diminishing federal budget, the fact that the two-thirds of the space at the support center was intended for the current collection, and the urgent need according to the Smithsonian to get the current objects which have been improperly stored for so many years in more ideal storage, can you explain why the new acquisitions have not been slowed or halted until you have properly cared for the current collection?

Answer: In fact, the Museum's new acquisitions rate has slowed substantially. During the early 1980's, the Museum had been acquiring new collections at an average rate of over one million items per year. In comparison, during the first half of this decade, the average acquisition rate has dropped to approximately 400,000 specimens per year. The Smithsonian acquires items only after careful consideration by museum curators, collections managers, and directors. Because of this rigorous selection process, the Institution adds to the collections only a small percentage of what is offered. The study of natural history is dynamic. Therefore, natural history collections cannot be static and must be reflective of the ever-changing world around us. Thus, the Institution continues to acquire new specimens even as it grapples with issues of care and storage for its collections.

Question 101: How many objects have been moved to date?

Answer: The Institution has moved 18.4 million objects/specimens to date.

Question 102: How many will be moved in FY 1995?

Answer: The Institution currently projects the number of collection objects/specimens to move to the Museum Support Center during FY 1995 at 4.6 million.

Question 103: How long will it take to move all the current collections to the Suitland facility?

Answer: The staff of the National Museum of Natural History (NMNH) estimates that it will have completed the first phase of the move of its collections by the end of 1998. Completion of the second phase of the move of NMNH collections, as well as the move of collections of the National Museum of American History (NMAH), is projected for the end of 2001 at which time the Museum Support Center will be filled to capacity.

Question 104: How many new objects have been acquired through acquisition or donation during the past two years?

Answer: The Museum of Natural History acquired 931,336 objects during FY 1993 and FY 1994. These new acquisitions are incorporated into the appropriate collections, usually according to taxonomic or cultural groupings. The new acquisitions may be housed with related collections in the Museum Support Center, or housed with related collections housed within the Natural History Building.

Question 105: What has been the cost of these acquisitions?

Answer: The total purchase cost of new collections acquired by the Museum in FY 1993 and FY 1994 was \$301,991.

Question 106: Are these items that the Museum does not currently own?

Answer: Yes, these are collection items for which the Museum does not have representatives.

Question 107: Specifically, how do they differ from the current collection?

Answer: The new acquisitions complement and fill important gaps in the existing collections, increasing the collection's overall value as a national and international research and educational resource. For example,

A very rare lunar meteorite was transferred from the National Science Foundation to the Department of Mineral Sciences as part of the U. S. Antarctic Meteorite Program. This specimen is the only meteorite of its kind in NMNH's collections.

NMNH now holds the world's finest specimen of Betekhtinite, a copper iron lead sulfide from Kazakhstan. This specimen is unique for its overall size, crystal size, and crystal habit. The specimen is NMNH's only sample suitable for display.

The donation of the Hooker Diamonds, a splendid set consisting of earrings, necklace and matching ring will be displayed in the upcoming gems and minerals exhibit hall. The gemstones are extraordinary for their size, color, clarity, and the unusually fine match among the individual stones in addition to their aesthetic qualities.

NMNH's coral collections have been greatly upgraded by the acquisition of 300-400 specimen lots from New Guinea. This particular collection is notable because it includes molecular and tissue samples. The collection was made in conjunction with multi-disciplinary biodiversity studies conducted at NMNH.

#### Redirection of Funding

Question 108: When FTE's and base funding is increased, does the Smithsonian look for offsetting decreases in areas that are not as high a priority? If not why not?

Answer: During its budget process, Institution management reviews not only new requests for funds, but also existing uses of funds. Where necessary, decisions are made to fund needs with offsetting decreases in other areas. For example, the Office of the Registrar's funds and FTEs were reduced in FY 1993 and realigned as part of the Archives office. A system of chargebacks was developed for exhibit and program support and base funds transferred to help establish the Institution-wide Information Resource Management and Research Equipment pools.

**Cooper-Hewitt, National Design Museum Salaries & Expenses**

Question 109: The Cooper-Hewitt, National Design Museum in New York budget for FY 1996 requests two new positions and a base increase of \$249,000. These increases are for custodial positions and replacement of the museum's telephone system, as well as increased utility costs and physical plant support associated with one of the three structures.

How did this museum come to be part of the Smithsonian Institution?

Answer: In 1967 the Board of Regents agreed to accept from the Trustees of the Cooper Union the collection which is preeminent in the field of design and decorative arts. Subsequently, the Carnegie Corporation of New York transferred title to the Carnegie Mansion on upper Fifth Avenue to the Institution for the Museum.

Question 110: Is this particular collection central to the mission of the Smithsonian?

Answer: The Cooper-Hewitt collection is the most extensive assembly of design-related material in the United States, and is entirely consistent with the mission of the Smithsonian.

Question 111: How would this museum rank in priority order of significance as compared with the other New York and Washington museums and galleries?

Answer: The Smithsonian does not attempt to rank its museums which are unique, as well as diverse. It should be noted, however, that the Cooper-Hewitt collection, which includes prints, drawings, and sculpture; textiles, wallpaper, metals, glass, and ceramics; and archival materials related to design and the decorative arts, is the largest art collection in the Institution.

Question 112: Has any thought been given to donating the buildings and collections to New York City?

Answer: Before deciding to move forward with renovation work proposed for the Cooper-Hewitt, Smithsonian management reviewed the Museum's current operations. It also considered the possibility of shifting control of the Museum to another organization. The result of the review was reaffirmation of the Institution's commitment to this very popular Museum and its well-respected staff. The Secretary is working with the Board to increase its accountability for fund-raising capacity and involve its Board more fully in its activities. That effort has already proven effective. Since January 1995, the Board has raised more than \$2.5 million and is committed to raising more than \$8 million to support the renovation that will bring the Museum into conformance with prevailing safety and accessibility standards.

Question 113: If you were asked to prioritize, how would this increase fare as compared to the increases you have asked for your new info highway/public access program, the grasslands construction project at the National Zoo, the NMAI?

Answer: Because of their differing objectives, it is difficult to rank priorities between operating and construction accounts. The Cooper-Hewitt is one of the six art museums participating in ARTCIS, a public access program for which funding is requested in FY 1996. The Museum's requested increase for custodial and facilities support is thoroughly integrated with the public program because of the need to adequately house the collection and improve the telephone system which is crucial to imaging of, and access to, that collection.

#### Traveling Exhibitions Service Salaries & Expenses

Question 114: Although no additional base funding is requested for the Smithsonian's Traveling Exhibition Service, you are planning an active program in FY 1996 as well as beginning a new initiative to bring the Smithsonian programs to public libraries across the country. Can you tell the committee about some of your traveling exhibits in FY 1996?

Answer: Because more than 100 different exhibitions travel annually under SITES' auspices, and because each of these exhibitions involve topics and technical formats tailored to different museum or exhibit center settings, it is difficult to single out one project over another as being more representative of SITES' FY 1996 program. During that fiscal year alone, SITES will circulate exhibitions large and small on subjects as varied as Abraham Lincoln, gospel music, contemporary art by Vietnamese Americans, prairie school houses, and scientific book illustration.

To gain a more specific idea of SITES' FY 1996 exhibition offerings, one may take note of *Louis Armstrong: A Cultural Legacy and Beyond Category: The Musical Genius of Duke Ellington*, two large-scale projects that utilize Smithsonian music history collections to explore the rich legacy of America's jazz heritage. Two other large format exhibitions, *Ocean Planet* and *Spiders!*, rely on collections from the National Museum of Natural History to illustrate lesser-known wonders of the natural world. Museums unable physically to accommodate exhibitions of these sizes have their pick of a wide range of other, more modest presentations, including *Saynday was Coming Along*, which surveys Kiowa Indian children's stories and illustrations, and *Produce for Victory*, an exhibition of World War II victory posters from the National Museum of American History.

Question 115: How do you determine where the exhibits will go?

Answer: Museums and exhibit centers nationwide determine where SITES exhibitions will be shown, by requesting them on a first-come, first-served basis. SITES maintains a mailing list of 12,000 museums and other exhibiting institutions across the country. Every year, these institutions receive information about SITES programs through exhibit-specific mailings, an annual program catalogue called *Update*, and a quarterly newsletter, *Siteliner*. Museums then call SITES to reserve booking slots on individual exhibition itineraries.

Competition for SITES exhibitions is stiff, because host museum requests for specific shows almost always exceed the availability of programs. Sometimes, museums interested in scheduling a booking slot that already has been filled by another institution attempt to exert pressure to revise an exhibition's itinerary through trustee members or community civic leaders. For this reason, SITES is especially vigilant about its first-come, first-served booking policy, which over the years has guaranteed that exhibition scheduling is based squarely on a fair response to museum requests.

Question 116: Do you primarily select large cities or do small rural areas benefit from the traveling exhibits? Can you give us some examples?

Answer: SITES has been providing traveling exhibitions for more than forty years. Up until 1989, however, virtually all of these exhibitions were created for well-established museums in large urban areas within the United States and abroad. When the Smithsonian set out seven years ago to reverse that trend, by also providing exhibitions to peoples and places that rarely had benefitted from the Institution's presence beyond Washington, it asked SITES to expand its service capabilities among under-served museums, and among exhibit centers in rural areas.

Today SITES has an extremely strong exhibit presence in rural communities. By teaming up with State Humanities Councils across the country, SITES has been able to develop installation-easy traveling exhibitions and related public programs for rural "museums" with exhibit spaces as small as 500 sq. ft., budgets as limited as \$1,000/year and "staff" resources so constrained as to involve volunteer support alone.

In FY 1996, SITES, in partnership with State Humanities Councils, will circulate *Produce for Victory*--which explores World War II victory posters--to twenty-five rural communities, and *Barn Again!*--which looks at historic and revitalized barn architecture in America--to thirty more. This initiative does not represent a cost increase to either SITES or Humanities Council base budgets, because it depends on extant staff resources and the implementation of programs that both organizations already are set up to provide.

Question 117: Tell us about the new initiative involving public libraries?

Answer: Like SITES' efforts to reach rural communities, its public libraries initiative dates back to 1989, when the Smithsonian set out to expand its national audience among peoples and places that rarely had benefitted from the Institution's presence beyond Washington. As SITES began to identify under-served audiences, it looked to a variety of institutions known for providing public program services to visitors unaffiliated with mainstream museums.

Libraries emerged early on as settings tailor-made for increased audience outreach. They resided in many cities and towns across the nation that did not house museums or other cultural centers. They catered to unusually broad cross-sections of the American public. They routinely provided services for large numbers of school children and the elderly, and they often were the setting for community programs related to national

commemorative holidays and events. For SITES, public libraries provided especially strong opportunities to reach new audiences.

SITES approached the American Library Association (ALA) about those opportunities in 1992, and the two organizations began to map out myriad technical, financial and program requirements needed to make an exhibition partnership feasible. Together they raised funds to support a pilot exhibition, devised installation-easy exhibit formats that would not require the involvement of trained museum professionals, investigated exhibit themes associated with specific commemorative events, and developed community-based public programs that could supplement core exhibit information.

The pilot project, a small-format version of *Seeds of Change*, the Smithsonian's major Quincentennial exhibition, circulated to public libraries in the capital cities of all fifty states. Public response was immediate and enthusiastic, leading SITES and ALA to conclude that together they could make available a far greater range of public programs than either organization ever would be able to provide independently.

In FY 1996, SITES and ALA will parlay their respective expertise in exhibition development and community library programming by circulating *multiple copies* of a small-format version of *Beyond Category: The Musical Genius of Duke Ellington* and *Before Freedom Came: African American Life in the Antebellum South*. The national tours of these exhibitions, which mark the beginning of a long-term SITES/ALA partnership, will for the first time extend Smithsonian resources to libraries beyond state capitals alone. This initiative does not represent a cost increase to either organization's base budget, because it relies on extant staff resources and the implementation of programs that both SITES and ALA routinely have provided to their own constituencies.

Question 118: How many cities and towns will benefit from this tour?

Answer: At least 200 cities and towns will benefit from this tour. The actual itineraries for *Beyond Category* and *Before Freedom Came* are only now being developed. Because both exhibitions are being produced in multiple copies, however, SITES will have the long-term capability of increasing the total number of booking slots as public demand warrants.

Question 119: Since your budget is not recommended for an increase, what programs did you eliminate in order to fund this new initiative?

Answer: SITES did not need to eliminate programs in order to introduce new program initiatives in FY 1996, because the new program services it will be providing are based on partnership alliances that utilize extant staff, budgetary resources and professional know-how.

**Office of Design & Construction Salaries & Expenses**

**Question 120:** The Office of Design and Construction requests an increase of \$1.5 million and 15 new positions. This office administers architectural engineering and construction contracts, reviews exhibit installations and supervises new construction projects. Normally, about 400 projects are in progress each year.

For fiscal year 1996 how many of these projects involve new, major construction projects such as the National Museum of the American Indian, the Air and Space Museum or other new major construction projects either in the planning or construction stage?

**Answer:** The Office of Design and Construction normally supervises approximately 400 projects in any given year. In FY 1996 four projects may involve new major construction.

**Question 121:** If these new projects were delayed, how would you adjust the FY 1996 request?

**Answer:** If new major construction projects are delayed, the FY 1996 request for ODC staff increases would remain the same. New major construction projects are supported from funds specifically requested for that purpose. The staff increases proposed for FY 1996 would support annual Repair and Restoration projects. Nine positions are needed to assure appropriate oversight for the current \$24 million level of work and six additional positions are needed at the \$34 million level.

**National Zoological Park - Construction & Front Royal: Construction**

**Question 122:** The FY 96 budget request includes an additional \$1.7 million to complete construction of Phase I, the Panda Plaza and Bison Grasslands area. \$3.2 million has been appropriated to date during fiscal years 1993, 1994 and 1995 for the design of all three phases of the project and the construction specifications for Phase I. What will be the total construction costs for each separate phase of the three exhibits?

**Answer:** The costs for each phase of construction are the following:

<u>Phases</u>	<u>Title</u>	<u>Cost</u>
First	American Grasslands	\$1.584 million
Second	African Grasslands	\$4.467 million
Third	Domestication Area	\$1.565 million
	Farm Option	<u>\$1.215 million.*</u>
	Total	\$8.831 million

\* If the Farm option is included in the Domestication Area, it will not be funded with Federal appropriations.

Question 123: I understand from your budget that these three exhibits depict three separate and distinct grassland habitats and each segment will be self-contained. I would assume then, that the first exhibit could be completed and the other exhibits could be delayed, is this correct?

Answer: Yes; One project could be completed, and the others deferred. However, the total design and infrastructure for the entire project would have to be in place in order to build phase I. Deferring completion of construction will dislocate visitor access and increase the cost due to inflation.

Question 124: What would be the increase in operating costs for each of these exhibits?

Answer: The American and African Grasslands exhibits are being designed to operate with no additional staff or support dollars above our current base funding level. Contingent upon additional funding, the Domestication Area would include a farm demonstration option with an estimated one-time cost of \$1,215,000 for construction and recurring costs of \$1,215,000 for annual salaries for one farm manager and three keepers.

Question 125: Is there a plan to raise private dollars or use trust fund dollars for this project?

Answer: If the Institution were to include the Farm option as part of the Domestication Area, an amount of \$1,215,000 would be needed from nonappropriated funds.

Question 126: Your budget proposes \$2.3 million for the Rock Creek facility and \$950,000 for the Research Center in Front Royal. These costs appear to continue ongoing, routine repair and preventive and basic maintenance. Can you give the committee some idea of what types of projects are involved?

Answer: The following are examples of routine repair and preventive and basic maintenance projects.

Rock Creek:

- HVAC maintenance
- Tree maintenance
- Fire alarm maintenance
- Upgrade HVAC system
- Roof replacements
- Perimeter fence repairs
- Road repairs
- Filtration system replacements
- Quarantine buildings renovations
- Recycle area construction
- Signage and graphic replacement
- Glass replacement

Front Royal: Upgrade electric service to buildings  
Clean and paint building exteriors  
Provide on-site quarantine facilities  
Install ungulate sheds  
Install composite flooring in animal holding areas  
Upgrade doors in buildings

Question 127: Do you have a backlog of critical maintenance projects? If so, how many and what are the costs associated with those projects?

Answer: We have a backlog of maintenance which is reflected in our planned requests for appropriations in the period 1996-2000 (see table on page 100 of the FY 1996 Budget Justification). These are critical in the sense that if not funded during that time the consequences could be wide-ranging. Additionally we have found that some maintenance problems arise unpredictably so that we need to transfer funds from routine planned maintenance. For instance, road subsidence has occurred on our non-public complex of work access roads. Major maintenance projects at Rock Creek and Front Royal anticipated in the next five years average up to six per year; 40+ minor ones are typical.

Question 128: Are the new construction projects costs resulting in the delay of any critical maintenance projects?

Answer: If R&R funding levels in the years 1996-2000 are from \$3.3 to \$3.8 million, there should be no delay resulting from new construction projects.

Question 129: The Committee has appropriated, in recent years, funds to design and construct both the new Amazonia Gallery and Living in Water exhibits. Your budget for FY 1996 requests an increase of \$390,000 for operations of both exhibits and states that both projects are very labor intensive to maintain. Can you explain for the new members of the Committee what the total costs have been to date for both the Amazonia Gallery and the Living in Water exhibits?

Answer: The Zoo has received \$15.2 million of appropriated funds for the aquatic and forest part of Amazonia (\$7.7 million), Amazonia Gallery (\$4.6 million), and the Aquatic Trail - Living in Water (\$2.9 million). The Institution anticipates requesting \$2.1 million to complete the Living in Water exhibit.

Question 130: How many new buildings were involved and what is the square footage?

Answer: In Amazonia there are two connected buildings -- the Aquatic Habitat and Rainforest exhibit, and the connected Gallery building. These total approximately 28,000 square feet. The Living in Water will have a minimalist building and incorporate large out-door exhibit experiences.

Question 131: Are both projects completed, or are there additional phases planned?

Answer: The Gallery building is completed but the exhibit contents had to be completely redesigned to cope with staff shortages. There are additional phases of Aquatic Trail planned for the outyears.

Question 132: Were there any private funds or trust funds used for these two projects?

Answer: No private or trust funds were used for these two projects.

#### **Repair and Restoration of Buildings Account**

Question 133: The request for this account includes a \$10 million increase. Your budget justification strongly states that funding for maintenance and repair of the Institution's facilities has not kept pace with the need and as a result serious deterioration has occurred in the 5.5 million square feet of building space owned by the Smithsonian. As of April 1994, the estimated unfunded facilities renewal requirements had increased to \$250 million.

Given the fact that the Smithsonian has 16 museums and galleries in Washington and New York, restoration and storage buildings, and Centers for research and education in Panama, Maryland, Massachusetts and Arizona, why have there been a steady stream of funding requests for new, major construction of both buildings and exhibits when you have a critical backlog of projects in excess of \$250 million?

Answer: The Institution carefully balances the need to repair and renew existing buildings with the need to provide new space essential to the long term preservation of the collections that it holds in trust and the fulfillment of legal mandates. The high priority placed on maintaining the Institution's most valuable assets -- facilities and collections -- and on meeting legal responsibilities is reflected in the annual budget requests and in the Smithsonian's long range plans. The projects now in the major construction program all meet one or more of these criteria. The Air and Space Extension, American Indian Cultural Resources Center and the Suitland Collection Center are all key components of the Institution's plan to provide adequate and appropriate space in which to house, care for, and study the collections. The Natural History East Court Building will help alleviate space needs in the long range, and will directly impact the Smithsonian's ability to complete urgent renewal of the HVAC systems in the National Museum of Natural History in the short term. The American Indian Cultural Resources Center and the Mall Museum will satisfy legislative mandates, as well as legal responsibilities accepted by the government when the collections were transferred to the Institution. Several of these new facilities will also contribute to the Institution's ability to present exhibitions and other programs directly to the public. The Air and Space Extension, American Indian Mall Museum, and the NMNH East Court Building projects will contribute to this key aspect of the Smithsonian's mission.

Question 134. Why aren't the repair and restoration requests higher and more of an effort made to slow the pace of new museums, storage, collections acquisitions, and major new exhibits or raise private dollars and use trust fund monies?

Answer: As mentioned in the previous answer, the Institution continually balances competing needs for funding to care for its facilities and its collections. The funding requests for Repair and Restoration (R&R) and Construction reflect that balance. If more were requested in R&R, it would be at the expense of funding for essential space in which to store and care for existing collections.

For years, Smithsonian museums have limited collections acquisitions, because of the lack of space, to those artifacts that represent important facets of, or complements to, existing collections. They have also actively promoted long term loans to other museums and deaccessioning of objects to relieve the overcrowding in storage facilities. However, acquisitions are a vital part of being a museum, and collecting cannot stop altogether.

It has been the Institution's experience that fund raising possibilities are extremely limited for provision of basic operational requirements such as collections storage or facilities repair. The Smithsonian's available trust revenues currently support essential operating requirements, and cannot be diverted to support repair needs without seriously eroding the Institution's infrastructure.

Question 135: This committee has strongly supported the East Court project at the National History Building which opened in 1910. The total cost of the seven year effort is \$30 million. Appropriations to date have been \$21.3 million and the FY 96 request of \$8.7 million will complete the project which involves replacement of all the major utility systems. This is by far the largest facility, however, since some of your structures are nearly 140 years old, what is the condition of your other major museum buildings, could we be facing similar costs at the other facilities?

Answer: The East Court project will not replace all major utility systems in the Natural History Building which opened in 1910. The East Court project was requested in the Construction program to provide additional, long-term permanent space to accommodate currently overcrowded research laboratories, offices, collection areas, and to provide additional space for public exhibit, education and other outreach activities. In the short-term, the new East Court building will provide temporary 'swing space' for relocation of offices, laboratories, and collections in order to implement the project that replaces all major utility systems throughout the entire Natural History building. This Major Capital Renewal project is currently requested in the Repair and Restoration section of the Smithsonian budget request. This project is anticipated to require \$93 million in future appropriations and will take up to ten years to complete, at the \$34 million level of R & R funding support. The \$7 million requested for Major Capital Renewal in FY 1996 will continue this project.

The Smithsonian does face significant costs in the next decade, to repair other major museum buildings. The general condition of other major museum buildings, such as the American Art and Portrait Gallery, the Arts and Industries, and the Smithsonian Institution Castle, is portrayed in charts 1 through 5 on pages 102 through 107 of the Institution's

FY 1996 request to Congress. The estimated cost to renew these three buildings is approximately \$100 million. With the renewal work required at the Museum of Natural History, this constitutes the majority of the \$250 million current total in unfunded facilities deficiencies. Other buildings will require significant system replacement in the coming years, notably the Air and Space Museum and the Hirshhorn Museum.

Question 136: Does your master plan provide a specific timetable for major repairs and replacements by facility and the estimated costs associated with the projects in priority order?

Answer: Yes, the Institution has a five-year plan that lists major repair costs by facility and fiscal year. The relative priority is indicated by the fiscal year in which funding is proposed.

Question 137: Assuming that the federal discretionary budget will continue to dramatically decline in the foreseeable future, would you agree that caring for the existing collection and buildings becomes a higher priority than new construction projects?

Answer: Providing adequate and appropriate space for our collections emerges repeatedly as the most critical collections management priority for the Institution. Therefore, much of our major new construction is directly related to caring for our existing collections. The legislatively mandated collections conservation center at Suitland for the National Museum of the American Indian and the Air and Space extension at Dulles are prime examples.

Question 138: If adequate funds were not made available for major renovation/replacement projects, would it result in the closure of the buildings to the general public? This certainly would have been the case with the Natural History Museum. Please be specific.

Answer: Inadequate funding for repairs and major system replacements would not result in the closure of any Museum building except in the event of some major, unexpected system(s) failure. The Institution will continue to repair building systems and equipment as long as funds and parts are available.

A recent incident illustrates the potential for problems, however. At the Natural History Building's east wing basement a network closing motor on one of three transformers overheated and burned out. The limits on the control of the motor did not function causing the motor to continue to operate. The device that should have stopped the motor when it started overheating was installed in 1962, and replacement parts are no longer available. The motor had to be removed and repaired. This process took ten days. Fortunately, the other two transformers could carry the load. However, smoke from the burn-out caused the building to be evacuated. Although the effect on the building was minimal, if current funding levels continue, we could expect occurrence of such incidents to increase in frequency and severity.

Question 139: Your budget admits that given the serious deterioration of at least four museum buildings, the Institution's goal is annual funding at the \$50 million level as opposed to the \$34 million requested in the FY 96 budget. Given the almost alarming condition of some of the most popular museums and galleries, why did you decide to ask for less in repair and restoration and continue to request funds for new museums and galleries?

Answer: The \$34 million request reflects the amount allowed by the Office of Management and Budget for R&R in FY 1996. It is the Institution's intention to build the annual funding level in this account to \$50 million in FY 1997. Although it might appear that the Smithsonian has chosen to request less for R&R and more for construction of new facilities, the request for Construction funding represents an urgent need to accommodate storage and care requirements of existing collections, including those of the Museum of the American Indian, and the fulfillment of legislated and other legal commitments to provide an appropriate museum for the NMAI collections. The Institution continually balances these competing needs for funds to care for our existing collections and facilities.

Question 140: Is it not easier to raise private funds for new construction and new exhibits than it is to raise non-federal funds for repairs and renovations?

Answer: It is not easy to raise funds, for any purpose, given the significant competition nationally for non-Federal support. Often, private funding is more available for "new initiatives" because donors have an opportunity to help develop the case for support. On occasion, however, magnificent "repair and renovation" projects can result from fund raising, financing, state/local government funding, or a combination of the three. Examples of such projects include the George Gustav Heye Center of the National Museum of the American Indian, and the Union Station and National Building Museum, both located in Washington, D.C.

Question 141: Is the public at risk in any of the Smithsonian buildings?

Answer: Although there are cases in Smithsonian buildings where the Institution is planning for but not yet in full compliance with current codes and laws, we do not consider the public to be at risk. The Institution would close a building before risking public or staff safety, and occasionally has done so for very short periods. The Institution places life safety as its highest priority in the Repair and Restoration program.

Question 142: Are the collections at risk due to deteriorating structures, insufficient fire detection and suppression or security deficiencies?

Answer: Collections are under a certain amount of risk in any building. Older roofs can leak and pipes sometimes break; heating, cooling and humidity control systems fail. These events cannot be predicted, but the likelihood of their occurrence and the length of time required to fix the problem increases with age.

The Smithsonian has done much to improve the protection of its collections from fire. The Smithsonian's fire protection master plan work is well underway, but is not complete. In comparison with other museums, Institution collections are probably better protected than most. However, we have not yet attained our goal of complete fire detection and suppression systems for all buildings.

The Smithsonian has prioritized the work required to lessen and remove the risk to collections and the buildings themselves. At this time, however, it takes the entire \$24 million annual funding to keep up with emergency repairs and risk reduction work. This leaves little funding to make improvements to the facilities that would result in more permanent solutions.

#### Major Construction Account

Question 143: This account's primary function is to meet the requirements of physical plant expansion and modifications to support program needs -- particularly in the area of collection storage and care. Your justification states that providing adequate space and care for the collections (138 million objects) is the most critical collections management priority. Your FY 1996 budget requests \$38.7 million, a \$9.5 million increase over FY 1995 enacted.

\$24.5 million would support the final construction dollars for the American Indian collection (\$21.5 million) and \$3 million to complete the engineering and design of the proposed Mall facility. Construction of the Customs House facility in New York was jointly funded by New York City, the State New York and Federal appropriations. Why is there no cost sharing component to the Suitland collections facility?

Answer: The legislation which established the National Museum of the American Indian (S.978, January, 1989) specifically called for the joint funding of the Customs House facility in New York City. This was the basis of the agreement reached with the City and State of New York which resulted in the transfer of the Heye Foundation collection to the Smithsonian Institution and the maintenance of a museum presence in the City of New York.

Question 144: Since protection of the Heye collection, totalling over 1 million artifacts, is of primary importance why can't the Mall facility be delayed and private funds be raised to help pay for the Suitland Cultural Resources Center?

Answer: The establishing legislation for the National Museum of the American Indian (S.978) specifies that the Board of Regents shall pay not more than 2/3 of the total cost of planning, designing, and constructing the facility on the Mall from funds appropriated to the Board of Regents. The remainder of the costs shall be paid from non-federal sources. Since 1991 there has been a National Campaign to raise funds specifically for this purpose. This effort is scheduled through 1997. This Campaign has been specifically addressing the need for funds from private donors for the Mall museum. It would be extremely difficult from a public relations aspect to: (1) put on hold this effort prior to the attainment of our published goals, and (2) to be forced to approach the same population of potential donors for

additional donations for another facility (Cultural Resources Center). This has already been presented as a part of the Mall campaign as a federally funded facility in support of the overall Smithsonian commitment to the National Museum of the American Indian.

Question 145: Some may conclude that the design of the collections storage facility in Suitland was more elaborate than necessary given fact that the federal allocation for this bill has declined in recent years and that three facilities were authorized for this one collection. Had a more modest facility been envisioned from the beginning, what would have been the estimated savings in planning, design and construction?

Answer: The Institution might have saved as much as \$10 million by designing a simpler storage structure, but even a more basic building would require comparable collections storage equipment, security, fire protection, and climate control. The Smithsonian has an obligation to provide a facility that the American Indians will consider suitable for the artifacts, many of which are treasured and have religious and profound historical significance. This commitment is reflected in the collaborative process used to develop the design of the building. At this stage in the process, however, \$5.5 million has been spent on the design of the Suitland facility. A redesign would add another \$4 million to the cost of the facility.

Question 146: The budget calls for an additional \$250,000 to construct a fiber optic local area network to provide an on-line data-link between New York and Washington. Can you explain the need for this system? Where will the actual installation of equipment, cabling and modifications to the HVAC system be placed? What would be the impact of not receiving these funds?

Answer: The objective of this project is to provide a data communications link at the National Museum of the American Indian (NMAI) Research Branch in the Bronx for transmitting information about artifacts to the NMAI offices in Washington and to the George Gustav Heye Center in Manhattan. Most of the equipment and wiring for this project will be installed at the Research Branch in the Bronx where the NMAI collection is currently housed. The data base of information, including digitized images, on objects in the collection will be made available on-line in Washington, DC, where the exhibit design staff has its offices. The Washington staff needs on-line access to this information to design exhibits for the Heye Center and the Mall Museum in Washington and to track artifacts as they are moved from the Research Branch to the Cultural Resources Center in Suitland, Maryland. With modifications to existing systems, the Heye Center will access the database to provide a resource for staff and public needing information about the collection. If these funds are not received, this information will have to be transmitted by hand, making exhibit design and move coordination more cumbersome and limiting public access to information about the collection.

Question 147: The Budget requests \$3 million to complete the planning and design of the proposed American Indian Mall museum. Currently the plan for construction totals \$110 million, \$73.3 million federal and \$36.7 million non-federal. How much non-federal monies have been raised to date?

Answer: As of March 31, 1995, \$27,855,152 has been raised in cash and pledges toward the construction fund goal of \$36.7 million. Overall, the National Campaign for the National Museum of the American Indian has raised a total of \$32,410,908.

Question 148: Are there plans to use Trust Fund dollars for this construction? If so, how much?

Answer: All funds raised by the National Campaign for the NMAI are Trust funds. The current plan is to raise and subsequently to expend \$36.7 million -- the one-third matching requirement on which the Campaign has been built -- toward construction of the Mall Museum.

Question 149: Because of a shortage of federal dollars, would you attempt to raise private dollars to build the Mall Museum if federal funds were not appropriated in the next several years?

Answer: We would continue to try to raise private funds to build the Mall Museum if the Congress were to:

- authorize the Smithsonian to begin construction (thereby helping us to minimize the impact of inflation on the cost of the Museum) in advance of receipt of appropriated funds, and
- provide the Smithsonian with assurances which could be widely publicized among potential donors that appropriations will be forthcoming, if not by October 1, 1996, in a timely fashion.

Question 150: Have any American Indian Tribes contributed to date? Are there plans for additional fundraising, particularly from Tribes who have very successful casino operations?

Answer: Yes, American Indian Tribes have contributed to the NMAI construction fund. Plans are in development to continue to seek financial support from Tribes, including those which maintain gaming operations.

Question 151: I don't believe that any other collections at the Smithsonian has the benefits of three separate facilities. Given the deficit situation, do you believe alternative funding sources should be examined prior to additional Federal dollars being appropriated?

Answer: There are several storage facilities provided for various museums to house collections that cannot be housed in the museum buildings themselves. Smithsonian-owned facilities such as the Museum Support Center, the Garber facility and Silver Hill in Maryland provide storage space for Smithsonian collections. In addition the Institution rents space in Fullerton, Virginia and Columbia, Maryland to house collections or portions of collections.

With specific reference to the National Museum of the American Indian, Public Law 101-185 directs the Institution to construct three facilities, including the collections facility at Suitland, the Museum on the Mall and the George Gustav Heye Center in New York City. Given the limited building capacity of the Mall Museum and its high number of projected annual visitors, early planning discussions assigned most museum staff, collections and support services to the Suitland facility. Additionally, due to the limited size of the Mall facility, the Suitland facility must assume a role beyond the vital service of providing collections care. Specifically, Suitland will serve as a staging area for all of the Museum's exhibitions and public programs in Washington and New York.

As the functions of the three facilities are interdependent upon one another, the Institution must find a way to fund each. The legislation mandates that we raise one third of the funds for the Mall museum, but does not speak to the issue of raising funds for the other two facilities.

Question 152: The Air and Space Museum Extension project is recommended for \$2 million in FY 1996 and \$2 million in FY 1997 bringing the total Federal investment, excepting operations, to \$8 million. The balance of \$177 million will be privately raised.

Since the Commonwealth of Virginia is a major source of funding for this project can you tell the committee exacting what specific funding has been made available for this project from the state?

Answer: The Commonwealth of Virginia has made the following commitments:

1. To provide infrastructure at the site commensurate with the Air and Space Museum's estimated requirements to the year 2015. The cost of the infrastructure is estimated to be in the range of \$27-40 million.
2. To provide \$6 million in cash toward construction of the Extension. In addition, the Commonwealth will help the Smithsonian raise a matching \$6 million from private industry in the Commonwealth.
3. A \$3 million interest-free loan to help in the planning and design of the Extension. The loan must be repaid by 1998.
4. To issue up to \$100 million in bonds toward construction of the Extension on behalf of the Smithsonian.

Question 153: Are all the funds made available now, or are some of funds to be appropriated in future years by the State of Virginia?

Answer: Currently, master planning for the project is under way. The funds for the \$3 million interest-free loan for planning and design are in the 1995 Appropriations Act. The funds for infrastructure development and construction of the Extension will be made available in future years.

Question 154: The justification mentions a unique partnership including Federal, State, regional business community, and private sponsors around the nation. I am interested in what specific funds have been raised from regional business communities and private sponsors?

Answer: The Air and Space Museum is currently doing studies to determine the fund raising strategy for construction of the Extension. Fund raising will not officially begin until these studies and master planning are completed.

Question 155: Another component of your construction budget includes \$350,000 to improve storage conditions at the Garber Facility. Since you plan on constructing the Dulles facility in the near future, why would renovation funds be necessary at Garber?

Answer: Storage space at the Garber Facility is shared among several Smithsonian organizations. The planned renovation is for a building used by the National Museum of American History.

Question 156: There is \$8.7 million included for the completion of the Natural History East Court project. The major reason for the project was renovation and replacement of the major utility systems. The second reason given was relieving the severe overcrowding problem.

Since the three Museum Support Center pods in Suitland were constructed to alleviate the collections storage problem, why is the extra 77,000 net square footage involved with the East Court project necessary?

Answer: The East Court Building project is necessary because the Major Capital Renewal Project (primarily mechanical renovation) cannot proceed without "swing space" for the temporary housing of staff and collections while the space they permanently occupy is undergoing renovation. The Museum considered several alternatives before choosing the East Court Building to accommodate the substantial temporary relocations required for the mechanical (HVAC) renovation. One alternative, off-site leased space, would have been prohibitively expensive in direct costs and in the toll that the relocation would take on the staff, the collections, and on the public services of the Museum. Another alternative, on-site relocation, would have required that many public exhibition halls be closed to serve as swing space.

The staff and the collections of the National Museum of Natural History (NMNH) are housed at two different locations: the Natural History Building (NHB) on the Mall and the Museum Support Center in Suitland, Maryland. Parallel activities occur at both locations. The Museum Support Center (MSC) was constructed in the early 1980s primarily to alleviate the severe collections storage problems of the NMNH on the Mall. The MSC Move staff continues to actively relocate collections from the Mall and other locations to MSC. The Museum projects that once these pods at MSC are filled, the NMNH will once again face a major storage problem for its collections.

Question 157: Once the East Court project is complete providing the additional space requirements and given the additional space at the Suitland Support Center, can you estimate, based on your current new acquisitions rate, when this new storage capacity will be filled?

Answer: As noted in the answer to question 156, the primary purpose of the East Court Building was to provide "swing space" for the temporary housing of staff and collections during the Major Capital Renewal Project, rather than to provide storage capacity for the long-term growth of the collections.

Once the East Court Building is completed, a variety of functions will be housed within it, including: (1) a large portion of the Department of Entomology, consisting of staff, research laboratories, office, and collections areas; (2) Office of Education staff offices; (3) public classrooms for educational programs; (4) Natural History Rare Book Library; (5) much needed, very large public restrooms accessible immediately off the Rotunda; and (6) other NMNH and Institution offices, laboratories, and conference rooms that will provide space for a variety of Institutional research, outreach, and support activities. Entomology will store some of its collections in the East Court Building. When Entomology moves into the East Court Building, the space allocated for collections storage is projected to be full.

#### New Planning

Question 158: There is a request for \$500,000 to support future planning for long-range capital improvement projects. What future new major construction projects will be planned for with these funds?

Answer: Planning funds are essential to the Institution's ability to define and project the facilities implications of proposed changes in program direction -- including "downsizing." The Institution uses these funds to research and provide basic data to define and evaluate future potential construction requirements prior to seeking Congressional authorization. Such funds were used to begin the NASM Extension, and to define research facilities at the Smithsonian Environmental Research Center and requirements for collections storage facilities at Suitland. The Institution will use future funding to research issues such as consolidation of administrative space in an owned facility to reduce dependence on expensive long-term leased space and free public space in museums on the Mall. Additional work will be done to define collections storage requirements. Additional projects will be researched as they are defined.

Question 159: If priorities had to be made, which projects would you consider essential to the current operations of the Smithsonian museums and galleries?

Answer: The Institution would consider planning for storage facilities, and for replacement of administrative space to be the most urgent projects to be funded from this account.

#### Alterations and Modifications

Question 160: This account involves minor construction projects under \$1 million. The FY 1996 request is for \$3 million dollars. How much of this \$3 million would be used to complete ongoing projects funded in previous appropriations bills?

Answer: Of the \$3 million requested for Alterations and Modifications in FY 1996, \$1.425 million will be used to complete ongoing projects initiated with prior year appropriations.

Question 161: How many new projects would be initiated with these funds?

Answer: Seven new projects would be initiated with these funds.

Question 162: Can you prioritize these new projects?

Answer: The new projects are prioritized in the following order:

- An uninterrupted power source for Smithsonian's main computer
- Miscellaneous space modifications at the Smithsonian Institution Building
- Funds for advanced planning and design of Alterations and Modifications projects
- New staff housing at Barro Colorado Island at the Tropical Research Center in Panama
- A new photographic film storage cold room at American History Building
- A new piping system for laboratory grade purified water at the Museum Support Center
- Design for building renovations at the American Art and Portrait Gallery building

#### American History Building

Question 163: There is a request for \$275,000 for the American History Building to move a number of collections from the basement to leased space in Newington, Virginia, the

Museum Support Center in Suitland, and other areas of the building. Does the Museum lease space in any other facility, if so where?

Answer: The Museum does not lease any space other than that at Newington, VA.

Question 164: If funding is not provided for this purpose, and the collections continue to be subject to inadequate storage conditions, will the Smithsonian consider deaccessioning any of the collection?

Answer: The Museum would have no choice but to consider what to do with particular collections, including whether to deaccession, as part of its regular cycle of collection planning.

#### Environmental Research Center

Question 165: The Center (SERC) located in Maryland, has been receiving appropriated funds since FY 1991 to construct four laboratory modules to provide laboratory and support space for several research programs. Two modules have been built and \$750,000 was provided in FY 1995 to construct the final two modules.

Your budget states that despite the FY 1995 funds being made available, it is unlikely that the funds provided can be redirected to allow the project to proceed. What do you mean by this statement?

Answer: In its FY 1995 request to Congress for Minor Construction, Alterations and Modifications, the Institution listed projects totaling \$5 million while the funding request itself was only \$3 million. Page 193 of the FY 1995 request contains the statement "the \$3 million request for FY 1995 accommodates all of the projects listed above. The Institution seeks the approval of the remaining projects listed below for the possible substitution and redirection of funds." The SERC laboratory modules are included in those projects listed below the line (see page 194 of the request).

While we had hoped that we might be able to redirect a portion of the \$3 million to complete the SERC laboratory modules in FY 1995, it now appears unlikely. The Institution is therefore requesting funding in FY 1996 for this project.

Question 166: You are also requesting \$800,000 in FY 1996 to cover escalated costs of the final two modules. What caused the increase in costs?

Answer: The design for the requested modules was completed in April 1993. At that time the estimate was \$729,000. Escalating the cost by only 3% (which is the inflation rate) per year increases the cost to \$797,000 (assuming the midpoint of construction in April 1996).

Question 167: Have the designs for the modules been enhanced? If so how?

Answer: The designs for the laboratory modules have not been enhanced. These modules were part of a larger package designed in April 1993. Only minor changes will be made to that design to incorporate changes made during construction of the earlier modules, but the cost impact will be less than 2% of the estimated construction cost for the project.

Question 168: Why are these new units needed?

Answer: SERC has senior scientists who do not have adequate research laboratory space. They are presently housed in deteriorating house trailers in which it is difficult to meet safety standards or to work efficiently.

Question 169: What type of research will be conducted at the modules?

Answer: SERC will use one module for studies of zooplankton in the Chesapeake Bay. These studies include the factors that affect the formation of undesirable dinoflagellate blooms. The second module will be used for studies of the introduction into Chesapeake Bay of dangerous exotic biota via ship ballast water. These biota include shellfish parasites and new species of shellfish such as the Zebra Mussel that disrupt and adversely affect natural biotic communities.

Question 170: What will the practical effect be if additional funds are not provided for this purpose?

Answer: These important research programs will be seriously impaired with respect to efficiency and productivity. The operating costs will also be higher due to inadequate and inefficient utilities, hoods, etc. in the currently used house trailers.

#### Tropical Research Institute

Question 171: The Smithsonian has recently completed construction projects at the Institute that added 95,000 square feet of space to facilities in Panama. This was done with federal funds. More federal funds were appropriated in FY 1985 and 1991 (\$1.3 million) to complete construction of seven buildings and a laundry/lounge building. Now, the FY 1996 request includes \$470,000 for construction of additional housing for scientists and staff supporting research programs of Barro Colorado Island. An additional request will be forwarded in the FY 1997 request of \$300,000 to complete the units. Also included in the FY 1996 request is \$175,000 for additional housing for game wardens patrolling Barro Island.

Given the poor state of collections storage, the age and serious deterioration of the existing museums and galleries in New York, Washington, Massachusetts and Arizona, the high priority major construction projects involving the Museum of the American Indian, and

the Air and Space Extension, how can you continue to justify the major expansion efforts at the Tropical Research Institute?

Answer: STRI is the leading Tropical Biological Research Institute in the world. It is the only unit of the Smithsonian Institution based in, and focussed on, the Tropics. The Tropics contain most of the world's plants and animals. The Tropics also have the fewest resources to study the effects that human populations will have on the future quality of life in the temperate zone. Thus, support for the research at STRI remains a high priority for the Smithsonian Institution and for the scientific information needs of the United States.

STRI's scientific activities require reliable utilities, trained technicians and specialized equipment, housed in properly air conditioned and maintained facilities. STRI provides essential services to governmental organizations, academic institutions, and scientists in the United States and from around the world. The requested increase of \$128,000 for FY 1996 is a very modest price to pay to keep the United States in the forefront of scientific development in tropical biology.

#### Museum Support Center

Question 172: There is a separate request of \$55,000 to install a deionized water system at the Museum Support Center. You state that approval of this request will avoid disruption of conservation and research tasks.

Over \$30 million has been spent to date on the Museum Support Center. why was such an important item not included in the original design and equipping of the center?

Answer: A deionized water system was installed and has been operational at the Museum Support Center for over 10 years. This request is for funding to replace that system. The original installation has fulfilled the needs of the programs well, but now has aged to a point where it needs major overhaul. Already, the Institution is replacing the delivery system which, due to aging of the polyethylene pipes, has developed frequent and major leaks over the last few years. The technology, especially in materials, has changed significantly during these past 10 years, and the new polypropylene delivery system can be expected to serve dependably for a much longer period. The requested funds would allow the replacement of the actual purification plant. Without replacement or major rebuilding of that system, uninterrupted delivery of deionized water will be in serious jeopardy.

Question 173: How critical is this water system?

Answer: High purity deionized water is essential for chemical research programs at the Conservation Analytical Laboratory (CAL) and the Laboratory for Molecular Systematics (LMS). Research and collection activities in laboratories of departments of the National Museum of Natural History, especially the Botany department, also depend on the delivery of deionized water. In addition, conservation activities at CAL, the Anthropological Conservation Laboratory's operations at MSC, and the branch conservation laboratory of the National Museum of American History require significant amounts of such high quality water

for treatments of objects in the national collections. All laboratories at MSC are connected to the delivery system for the centrally produced deionized water. The total use per year averages around 17,000 gallons.

**Question 174: Can it be funded with Trust Fund dollars?**

**Answer:** The Conservation Analytical Laboratory, which has the responsibility for the operation and maintenance of the deionized water system, does not have trust funds to finance the replacement of the system.

**Research**

**Question 175:** The winter issue of "Quest" details some of the scientific achievements of the Natural History museum scientists. Some examples include botanists' discovery of threats to Pacific Coral Reefs and the Study of Worldwide Amphibian declines. Can you describe other significant examples of research successes that improved the quality of life for the average American citizens?

**Answer:** We can describe many significant examples of research successes that directly improved the quality of life for the average American citizen, but it is important to remember that we cannot always predict in advance what will be of practical use to humans. Several of the examples, in fact, illustrate how basic research leads to unexpected benefits by laying the essential groundwork for breakthroughs in agricultural technology, pharmaceutical applications, and medical advances. For example, ongoing research by an NMNH Entomologist on a group of small, inconspicuous moths that are known pests in Europe and Russia unexpectedly revealed the "Cereal Stem Moth" as an accidental import to our country and now is recognized as an important threat to the winter wheat crop.

As demonstrated by the examples given in response to Questions Numbers 33 and 34, the collections-based research at NMNH contributes to the well-being of the average American by providing information on human disease and health issues, human impact and the sustainability of natural ecosystems and resources, cultural history, and a myriad of other practical outcomes of work done by the museum's research staff and by outside scholars. The following examples further illustrate this critical role of the museum in our society.

Fishing families in New England are in trouble because of failing resources in their traditional fishing grounds. Government assistance is possible for those who can propose worthy alternative fishery activities. Museum scientists are being asked about the identity, abundance, biology, and distribution of potential alternatives such as snow crabs in the northwestern Atlantic; such information is available in museum records and is given out routinely by our scientists. The high quality of this information depends ultimately on the state of the NMNH collections, the attendant data, the library, and the expertise of scientists who know how to use these resources.

Nuclear waste is a major concern of our society - and learning how to dispose of it safely is critical to the future of nuclear energy. Near the proposed Yucca Mountain

waste site in Nevada, there are volcanic areas that erupted in the recent geological past. Obviously, we need to know the risk of a volcanic eruption that might spread the stored nuclear waste around the globe, and scientists in the NMNH Department of Mineral Sciences currently are assessing this risk through study of long-term patterns of volcanism in the Yucca Mt. area. Specimens of volcanic rocks that bear on this problem are a permanent record of the research results and are stored in NMNH collections; they are available for further study by anyone who might have other questions to answer about volcanic hazards at the site. The whole issue of nuclear waste disposal is politically charged, and the NMNH Department of Mineral Sciences is relied upon to provide results that are both strictly objective and of highest scientific quality. This underlines the value of highly credible, public-sponsored researchers who can advise on controversial issues for the benefit of society as a whole.

Pest control is an essential component of our agricultural technology and success; to grow rice effectively, one must learn to control weevils. Weevils that live in rice fields were for a long time considered to be one species. Careful research on large collections of weevils showed that they were, in fact, two species, only one of which was a serious pest of rice crops. When this was clarified, it was possible to focus effective control measures on this pest species. This advance was only possible because of earlier systematic research illuminating the various species of weevils.

The Simian Immunodeficiency Virus has turned up in African monkey specimens from the collections at the National Museum of Natural History, specimens that were collected between 1896 and 1971, long before the spread of AIDS among humans. This strengthens the case for the recent evolution of HIV from the monkey virus, and provides an essential historical perspective on the disease. An NMNH zoologist and his colleagues pioneered this use of museum specimens in basic medical research.

Some songbird species are disappearing, and the cause or causes are subject to much speculation and debate as well as concern among conservationists. One hypothesis for their decline is that their wintering grounds are being affected by deforestation. In order to test this idea we need to be able to trace where birds that breed in North America spend their winters. Now this can be done by analyzing the chemistry of feathers from specimens in the museum's collections. Preliminary results indicate that some populations of the Black-throated Blue Warbler winter on several different islands of the Caribbean. Linking declining species to specific winter sites will be critically important for conservation planning.

Biologists working with the commercial deep-sea red crab, *Geryon quinquedens*, noticed a high proportion of lesions on the carapace and tentatively attributed these to pollution resulting from dumping of chemical waste in their habitat off the coast of New York. When biologists were able to study the incidence of lesions on crabs in the NMNH collections, which were taken by the U.S. Fish Commission in the late 19th century, they found that the number of lesions were comparable to those of the present-day crabs. Since the incidence of lesions had not changed over a hundred years, increased levels of chemical waste could be ruled out as a causal factor. This helps society by providing information that saves time and money, which might

otherwise be spent on investigations on the supposed effects of chemical waste on these crab populations, and it can also help to distinguish any actual effects of recent pollution on crabs and other aquatic organisms.

In the early 1980's, there was a controversy concerning "yellow rain" in SE Asia. It was thought by some that a chemical poison was being disseminated from airplanes with yellow pollen as a carrier. By chance, a museum researcher had been doing "pure research" on pollen from the group of plants that were implicated in the yellow rain controversy. When it became important to be able to identify the species of plants involved in the yellow rain, this researcher was able to draw upon her research and knowledge, and the museum's collections to make positive identifications in a short time. This helped greatly in resolving the issue; eventually it was determined that the yellow spots observed on foliage and human habitations were actually harmless and the result of mass cleansing flights of honeybees, during which they excrete large amounts of pollen-bearing feces.

Living organisms can be the best indicators of something wrong in the environment that can be harmful to humans, e.g., the proverbial canaries in coal mines. Two books published in the 1970's by an NMNH invertebrate zoologist, *Pollution Ecology of Freshwater Invertebrates* and *Pollution Ecology of Estuarine Invertebrates*, provided impetus for learning about the small animals such as crayfish and what they tell us about aquatic ecology. The idea that there are "all-purpose aquatic canaries" among these species is supported by research using collections at NMNH.

NMNH also increases the quality of life by providing intellectual stimulation, education and enjoyment for a broad sector of the public, primarily through exhibitions and other outreach efforts that educate and inspire over 6 million visitors annually. The museum allows all visitors to explore aspects of the natural world around us and how we, as humans are part of that natural world. The impact of the "electronic museum" now planned to bring such educational experiences into homes and schools through the Internet will greatly expand the impact of this role. We also provide training in museum curation and specimen-based research directly to students, teachers, and professionals from the United States and many different countries.

These are only a few of the many other examples of research "successes" and "products" based on the NMNH collections and research.

**QUESTIONS SUBMITTED BY REPRESENTATIVE TOM BEVILL**

**Enola Gay Exhibit**

**Question 176:** Questions from Congressman Tom Bevill for Mr. I. Michael Heyman, Secretary of the Smithsonian Institution, before the House Interior Appropriations Subcommittee, March 10, 1995.

As a World War II Veteran, I was shocked at the Smithsonian's original plans for the Enola Gay Exhibit at the National Air and Space Museum. I still do not understand how such a fine museum could even consider rewriting history. We were not the aggressors in World War II, and, anyone who remembers Pearl Harbor knows that. I would like to know if you have completed your internal management review of this fiasco. What are your findings?

**Answer:** The Institution has not completed its process of "an internal management review" of the Enola Gay exhibition, but is in the process of asking the National Academy of Public Administration to conduct a full management review of the National Air and Space Museum. It is hoped that this review will be completed in the next few months, and a Report submitted to the Secretary. At the same time, a senior Smithsonian manager is conducting an internal study of the Smithsonian's processes for developing exhibitions at our various museums and research centers. This report should be completed by the end of April. On a third front, the Institution is working with the University of Michigan to hold a conference in Ann Arbor entitled "Presenting History: Museums in a Democratic Society" that will include one section dealing with the Enola Gay exhibition, and the lessons that can be drawn from this experience. (As the Secretary said in his January 1995 statement, he believes there was a fundamental flaw in the concept of the exhibition and that he has taken personal responsibility for replacing that exhibition with a much simpler display of the Enola Gay. He has put in place several initiatives through which the Institution can learn from this experience.)

**Question 177:** What steps are being taken to prevent something like this from happening again.

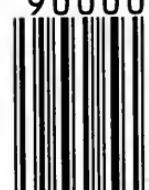
**Answer:** The Institution is putting in place an extensive review of the Institution's exhibition processes as well as a full management study on the National Air and Space Museum. From these studies will come a series of recommendations that will be considered for implementation to prevent similar occurrences.



ISBN 0-16-047153-2

A standard linear barcode representing the ISBN number 0-16-047153-2.

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